

## 4.0 REVISED PAGES TO THE DRAFT EIR

In accordance with section 15132 of the State CEQA Guidelines, this section presents the insignificant modifications that are made to the Draft EIR to clarify or amplify its text in response to comments. Such changes are therefore consistent with the provisions of section 15088.5(b) of the State CEQA Guidelines. Deletions to text are shown by strike-through and additions to text are shown by underline.

### EXECUTIVE SUMMARY

This section of the EIR contains a summary of the EIR, with all changes reflected below.

### SECTION 1: INTRODUCTION

*The following text was modified on page 1-9 to include the role of the U.S. Army Corps of Engineers as a permitting agency:*

- California State Fire Marshall;~~and~~
- Central Coast Regional Water Quality Control Board;~~and~~
- U.S. Army Corps of Engineers.

### SECTION 2: PROJECT DESCRIPTION

*The following text was modified on page 2-3 to clarify the status of the EMT lease:*

The CSLC first entered into a State lease (Lease PRC 3904.1), with respect to existing offshore pipelines and other improvements associated with the EMT (offshore Improvements), with Signal Oil and Gas Company beginning February 28, 1968, for a period of 15 years, with the option to renew the lease for three additional periods of 10 years each. That lease was subsequently terminated, and the current State lease was executed with Aminoil, Inc., for a 10-year period beginning March 1, 1983, with two renewal options of 10 years each. The lease was then assigned to various entities and, on July 11, 1997, the CSLC approved the assignment of the State lease to Venoco. Since March 1993, the expired Lease PRC 3904.1 has been operating in a holdover status on a year-to-year basis~~the CSLC has been granting one-year extensions of the lease. Venoco has notified~~ applied to the CSLC that it wishes to exercise its last~~for a~~

1 ~~new 10-year lease-renewal option~~, as provided in the State lease, to extend the State  
2 lease through February 28, 2013. The CSLC lease, if authorized, will expire in 2013;  
3 ~~and Venoco must cease operations or apply for a new lease at that time.~~ By 2016, the  
4 UCSB lease will expire, and the onshore portion of the EMT must be abandoned and  
5 returned to its original condition or a new lease negotiated with UCSB. As defined in  
6 section 15378(a)(3) of the State California Environmental Quality Act (CEQA)  
7 Guidelines, the proposed Project is the continued operation of the EMT facilities under a  
8 new 10-year State lease.

9 *The following text was modified on page 2-16 to clarify the status of the EMT crude oil*  
10 *storage tanks that were temporarily out of service for repair:*

11 Extensive repairs started in May 2005, including floating roof and tank floor repairs, and  
12 have been supervised by the APCD. Tank 8265 has been cleaned, repaired, repainted,  
13 tested and put back in service in September 2005. Tank 8264 has undergone several  
14 repairs due to corrosion, and has been internally treated with anti-corrosion coating; ~~as~~  
15 ~~of beginning of December 2005 it is undergoing tests that would allow it to be put~~ it is  
16 currently back in service. Repairs to the storage tanks at the EMT were supervised by  
17 the County System Safety Review and Reliability Committee (SSRRC), of which the  
18 APCD is a member, and that Tank 8264 was determined to be fit for service and  
19 cleared for use by the SSRRC in March of 2006.

20 *The following text was modified on page 2-19 to clarify the status of the Barge Jpvalan*  
21 *that was temporarily out of service for repair:*

22 The Barge Jovalan was out of service for 6-7 weeks starting in August 2006 due to  
23 concerns about the integrity of the barge deck. The results of gauging (metal thickness)  
24 testing done on the barge main deck indicated that the deck thickness did not meet  
25 minimum specifications. The deck was repaired and the barge returned to service.  
26 Following the return to service, Shell declined to accept deliveries from the Jovalan  
27 citing corporate policy against the use of single hulled vessels.

28 *The text on Page 2-31 was modified to provide an updated status of Venoco's Full Field*  
29 *Development Project:*

30 As part of the application, Venoco would abandon the EMT and restore the onshore and  
31 offshore lease. The application was submitted in August 2005 ~~and deemed incomplete;~~  
32 ~~Venoco is currently addressing the comments~~ and is currently in the environmental  
33 review process.

~~Venoco has not proposed to abandon the EMT as part of this Project; therefore, environmental impacts associated with the abandonment of the EMT have not been evaluated in this EIR. However, Section 3.0, Alternatives, provides an overview of EMT abandonment procedures as proposed by Venoco in their application for the Ellwood Oil Pipeline Installation and Field Improvements.~~

### **SECTION 3: ALTERNATIVES**

*The following changes were made to Page 3-9 to clarify specific features associated with the truck transportation option of the No Project Alternative:*

Each tandem truck can hold approximately 160 bbls (25 m<sup>3</sup>) of oil. At the current South Ellwood Field production rate of 4,000 barrels per day (BPD) (636 m<sup>3</sup>/day) of oil, 25 roundtrip truck trips per day would be required to transport crude oil to Carpinteria. Under the permitted facility capacity of 13,000 BPD (2,067 m<sup>3</sup>/day), 82 truck trips (164 one-way trips) per day or 4 to 5 truck trips (8 to 10 one-way trips) per hour including peak hours would be required.

#### **Required Agency Approvals**

This transportation option would require approval by several ~~local~~ agencies, including:

- Santa Barbara County Fire Department;
- Santa Barbara County Air Pollution Control District (APCD);
- City of Goleta;
- City of Carpinteria;
- Carpinteria/Summerland Fire Department;
- California Department of Transportation.

*The following text was added to the Alternatives section to provide a summary of the Environmentally Superior Alternative. This information was previous provided in the EIR Executive Summary:*

### **3.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE**

The CEQA requires that the specific No Project Alternative be evaluated, along with its impacts, as part of the EIR (the State CEQA Guidelines section 15126.6(e)). As such, the No Project Alternative was not subject to the screening analysis and has been evaluated as an Alternative for the Project throughout the EIR.

The discussion below compares impacts associated with the proposed Project, with those associated with the No Project Alternative, as identified as a result of the environmental analysis discussed in sections of Chapter 4 of this EIR. An Alternative would be considered superior to the proposed Project if there were a reduction in impact class. In cases where the impact from an Alternative was in the same class as for the proposed Project, differences in severity of the impact were analyzed.

The EMT Lease Renewal No Project Alternative, as was evaluated in Section 4, includes the following two crude oil transportation options:

- Truck Transportation to Carpinteria; and
- Pipeline Transportation to Las Flores Canyon.

Under the No Project Alternative, Venoco's lease would not be renewed and the existing marine terminal would be subsequently decommissioned with its components abandoned in place, removed, or a combination thereof. The decommissioning of the marine terminal would be governed by an Abandonment and Restoration Plan, a copy of which has been submitted to the California State Lands Commission (CSLC), Santa Barbara County, and the city of Goleta as a component of Venoco's "Development Plan Application for Ellwood Oil Pipeline Installation and Field Improvements" (Venoco 2005). Under the No Project Alternative, an alternative means of crude oil transportation would either need to be in place prior to decommissioning of the EMT or production at Platform Holly would cease. A consequence of the absence of the EMT and alternative crude oil transportation methods would be that the petroleum resources associated with the South Ellwood Field would be stranded, at least temporarily. It is more likely, however, that under the No Project Alternative, Venoco would pursue alternative means of traditional crude oil transportation such as truck transportation or a pipeline. Accordingly, the potential environmental impacts of the latter two alternative forms of crude oil transportation are described and analyzed in this EIR and are summarized in Table 3-3. For purposes of this EIR, it has been assumed that the No Project Alternative would result in a decommissioning schedule that would consider

1 implementation of one of the described transportation options. Any future crude oil  
2 transportation option would be the subject of a subsequent application to the CSLC, city  
3 of Goleta, or Santa Barbara County, depending on the proposed option.

4 Table 3-3 summarizes impacts from the proposed Project and the No Project Alternative  
5 including the two crude oil transportation options. The two crude oil transportation  
6 options, Truck Transportation to Carpinteria and Pipeline Transportation to Las Flores  
7 Canyon, both offer numerous advantages over the proposed Project and avoid a  
8 number of significant Class I impacts. Specifically, both transportation options would  
9 totally avoid or substantially lessen potential impacts related to oil spills in the marine  
10 environment, impacts to marine water quality, marine biological resources, land use,  
11 and visual resources. In terms of oil spill risk, these transportation options would also  
12 result in beneficial impacts when compared to baseline conditions associated with  
13 current EMT operations.

14 Pipeline Transportation to Las Flores Canyon offers some additional advantages over  
15 Truck Transportation to Carpinteria, mainly in the areas of safety, air quality, and  
16 energy. The risk of truck accidents and potential injuries and fatalities were determined  
17 to pose a significant Class I impact, whereas this risk would be minimal for pipeline  
18 transportation. Air quality impacts associated with truck transportation exhaust would  
19 result in a significant Class I impact while air quality impacts associated with pipeline  
20 construction and operation were found to be insignificant. Finally, truck transportation  
21 would require more net energy use than pipeline transportation. Given the relative  
22 advantages of pipeline over truck transportation of crude oil, the Pipeline Transportation  
23 to Las Flores Canyon transportation option is environmentally preferable.

24 The State CEQA Guidelines section 15126.6(e)(2) states, in part, that “If the  
25 environmentally superior alternative is the “No Project” alternative, the EIR shall also  
26 identify an environmentally superior alternative among the other alternatives.”

27 As the document does not identify any alternative other than the No Project Alternative,  
28 there is no obligation to identify an environmentally superior alternative as provided in  
29 section 15126.6(e)(2).

Table 3-3

## Summary of Environmental Impacts for the Proposed Project and Alternatives

Impact Class	I =	Significant adverse impact that remains significant after mitigation.
	II =	Significant adverse impact that can be eliminated or reduced below an issue area's significance criteria.
	III =	Adverse impact that does not meet or exceed an issue area's significance criteria.
	IV =	Beneficial

impact.

Impact No.	Impact Description	Proposed Project	No Project Alternative	
			Truck	Pipeline
Section 4.1 Geological Resources				
GEO-1	Slope Failures	III	No Impact	No Impact
GEO-2	Damage to Facilities Due to Beach Scour	II	No Impact	No Impact
GEO-3	Facilities Damage due to Corrosion	II	No Impact	No Impact
GEO-4	Erosion of Drainages	II	No Impact	No Impact
GEO-5	Faulting and Seismicity	II	No Impact	III
GEO-6	Erosion and Siltation of Waterways	No Impact	No Impact	II
Section 4.2 Hazards and Hazardous Materials				
HM-1	Acute Risks of an Oil Spill	II	No Impact	No Impact
HM-2	Risks of Crude Oil Spills to the Environment	I	No Impact	No Impact
HM-3	Increased Spill Sizes Due to Loading Pipeline Vacuum/Evacuation Operation	II	No Impact	No Impact
HM-4	Increased Spill Sizes Due to Loading Pipeline Leak Detection	II	No Impact	No Impact
HM-5	Increased Spill Sizes Due to Failure to Deploy Loading Booms	II	No Impact	No Impact
HM-6	Spills Due to Loading Pipeline Failure from Inadequate Loading Pipeline Inspections	II	No Impact	No Impact
HM-7	Spills Due to Pump Leaks and Lack of EMT Pump Drains Spill Containment	II	No Impact	No Impact
HM-8	Increased Spill Size Due to Spill Response Planning and Drills	II	No Impact	No Impact
HM-9	Spills Due to Barge Hull Penetrations	II	No Impact	No Impact
HM-10	Trucks on Area Highways Impacts to Public Health	No Impact	I	No Impact
HM-11	Trucks on Area Highways Impacts to the Environment	No Impact	IV	No Impact
HM-12	Pipeline Impacts to Public Health	No Impact	No Impact	IV
HM-13	Pipeline Impacts to Environment	No Impact	No Impact	IV
Section 4.3 Air Quality				
AQ-1	Operation Emissions	II	No Impact	IV
AQ-2	Odor Emissions	II	IV	IV
AQ-3	Health Risk	III	No Impact	No Impact
AQ-4	Emissions from Truck Transportation	No Impact	I	No Impact
AQ-5	Air Emissions from the Pipeline Construction	No Impact	No Impact	III

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	III =	Adverse impact that does not meet or exceed an issue area's significance criteria.	
	IV =	Beneficial	impact.

Impact No.	Impact Description	Proposed Project	No Project Alternative	
			Truck	Pipeline
Section 4.4 Hydrology, Water Resources, and Water Quality				
WQ-1	Oil spill impacts to marine water quality	I	IV	IV
WQ-2	Potential Facilities Leaks and Impacts to Nearby Onshore Waterways	I	No Impact	No Impact
WQ-3	Potential Impacts to Water Quality from Oil Spills from Trucks	No Impact	II	No Impact
WQ-4	Potential Impacts to Water Quality from Oil Spills from the Pipeline	No Impact	No Impact	I
Section 4.5 Biological Resources				
BIO-1	Oil Spill Impacts to Marine Biological Resources	I	No Impact	No Impact
BIO-2	Oil Spill Impacts to Commercial and Recreational Fishing	I	No Impact	No Impact
BIO-3	Oil Spill Impacts to Kelp Resources	III	No Impact	No Impact
BIO-4	Marine Vessel Traffic Impacts on Commercial and Recreational Fishing	II	No Impact	No Impact
BIO-5	Vessel Traffic Impacts on Marine Mammals and Turtles	II	No Impact	No Impact
BIO-6	Noise and Lighting Impacts on Marine Mammals and Birds	III	No Impact	No Impact
BIO-7	Oil Spill Impacts to Onshore Biological Resources	I	No Impact See BIO-8	No Impact See BIO-10
BIO-8	Impacts to Onshore Biological Resources from Trucking	No Impact See BIO-7	III	No Impact See BIO-10
BIO-9	Oil Spill Impacts to Onshore Biological Resources from Pipeline Construction	No Impact See BIO-7	No Impact See BIO-8	II
BIO-10	Oil Spill Impacts to Onshore Biological Resources from Pipeline Operation	No Impact See BIO-7	No Impact See BIO-8	I
Section 4.6 Cultural, Historical, and Paleontological Resources				
CR-1	Adverse Impacts from Oil Spills	II	II	II
CR-2	Potential Disturbance to Paleontological Resources due to an Oil Spill	III	III	III
Section 4.7 Land Use, Planning, and Recreation				
LU-1	Accidental Oil Releases Could Affect Recreational Activities	I	No Impact	No Impact
LU-2	Oil Spills from the Barge Jovalan in Transit	I	No Impact	No Impact
Section 4.8 Public Services				
Neither the Project nor Alternatives would have an impact on public services.		No Impact	No Impact	No Impact

Table 3-3

## Summary of Environmental Impacts for the Proposed Project and Alternatives

Impact Class	I =	Significant adverse impact that remains significant after mitigation.	
	II =	Significant adverse impact that can be eliminated or reduced below an issue area's significance criteria.	
	III =	Adverse impact that does not meet or exceed an issue area's significance criteria.	
	IV =	Beneficial	impact.

Impact No.	Impact Description	Proposed Project	No Project Alternative	
			Truck	Pipeline
Section 4.9 Transportation and Circulation				
T-1	Transportation Impacts from Trucks	No Impact	III	No Impact
T-2	Transportation Impacts from Pipeline Construction	No Impact	No Impact	II
Section 4.10 Noise				
N-1	Increased Noise from Pumps and Barge Engines	III	No Impact	No Impact
N-2	Increased Noise from Trucks	No Impact	III	No Impact
N-3	Noise from Construction Machinery	No Impact	No Impact	II
Section 4.11 Aesthetics/Visual Resources				
VR-1	Visual Effects from the Increased Presence of the Barge Jovalan	I	No Impact	No Impact
VR-2	Visual Effects from Accidental Oil Spills at or Near the EMT	I	No Impact	No Impact
VR-3	Visual Effects from Accidental Oil Spills from the Barge Jovalan in Transit	I	No Impact	No Impact
VR-4	Visual Effects from the Increase in the Presence of Trucks	No Impact	III	No Impact
VR-5	Visual Effects from Pipeline Construction Activities	No Impact	No Impact	III
VR-6	Visual Effects from Pipeline Installation	No Impact	No Impact	II
Section 4.12 Energy and Mineral Resources				
ER-1	Increased Electricity Use by the Project	III	No Impact	No Impact
ER-2	Increased Fossil Fuel Consumption by the Project	III	No Impact	No Impact
ER-3	Increased Fossil Fuel Consumption by the Trucks	No Impact	III	No Impact
Section 4.13 Agricultural Resources				
AG-1	Impacts to Agricultural Activities from Pipeline Construction	No Impact	No Impact	III
Section 4.14 Environmental Justice				
EJ-1	Environmental Justice Effects from Hazards and Odors	III	No Impact	No Impact
EJ-2	Environmental Justice Effects from Truck Traffic	No Impact	III	No Impact



## SECTION 4: ENVIRONMENTAL ANALYSIS

*The text on Pages 4-8 and 4-9 were modified to reflect minor details related to the proposed Cabrillo Port LNG Terminal.:*

The Applicant proposes to construct and operate an offshore floating storage and re-gasification unit (FSRU) that would be moored in Federal waters offshore of Ventura County, approximately 47 miles (76 kilometers [km]) southeast from the EMT. As proposed, liquefied natural gas (LNG) from the Pacific basin would be delivered by an LNG Carrier to and offloaded onto the FSRU; re-gasified; and delivered onshore via two new 22.8-mile (36.6-km), 24-inch-diameter (0.6 meters [m]) natural gas pipelines laid on the ocean floor. These pipelines would come onshore at Ormond Beach near Oxnard, California and tie-in to the existing Southern California Gas Company (SCGC) pipeline system. A new metering station, including a pig launcher/receiver and odorant station would be built in addition to odorant being added on the FSRU. New pipelines would be built to carry the gas from the metering station with two local tie-in segments to the storage facility in Santa Clarita. The facilities would be designed to deliver an average of 800 million cubic feet (22.7 million cubic meters [m<sup>3</sup>]) per day.

*The text on Page 4-10 was modified to reflect the updated status of activities at Platform Grace.*

### 2. Clearwater Port LNG Terminal, NorthernStar Natural Gas, Inc. LNG Terminal at Platform Grace, Crystal Energy LLC

The Clearwater Port LNG project proposes to retrofit Platform Grace, an existing fixed offshore oil and gas facility located in Federal waters 12.6 miles offshore of Ventura County, to receive and regasify liquefied natural gas (LNG) for transport to shore. Platform Grace will undergo a series of changes as part of its retrofit into a deepwater port facility. This will be accomplished through installation of platform-based regasification equipment, LNG floating dock carrier berthing system, LNG subsea transfer system, and construction of a new 36-inch diameter subsea pipeline for transport of natural gas to shore at the Reliant Mandalay Power Generation Station in Oxnard. Pipeline construction will include the installation of a subsea pipeline segment approximately 13.4 miles in length and will tie-into the existing Southern California Gas Company (SCGC) pipeline infrastructure in an area of existing industrial development and will be limited to a pipeline metering station, odorant injection facility, and if necessary, a nitrogen injection facility. Several local transmission terrestrial tie-in segments required for the project will be constructed by SCGC to upgrade the current

1 infrastructure, which will include the receiving station, Mandalay to Center Road  
2 pipeline, Line 324 Loop, Line 225 Loop, Line 3008 extension, and all related station  
3 improvements.

4 Prior to the start of LNG related operations on Platform Grace, all oil and gas production  
5 from the platform will be permanently abandoned/decommissioned, however Platform  
6 Grace will continue to serve as a pipeline pigging station for the pipelines coming from  
7 Platform Gail to Platform Grace and from Platform Grace to the onshore Venoco  
8 processing plant at Carpinteria. The average anticipated LNG terminal throughput  
9 capacity would be at a rate of 1.2 billion standard cubic feet per day (Bscfd), with a peak  
10 send out rate of 1.4 Bscfd.

11 Crystal Energy, Inc. filed a Deepwater Port License application with the United States  
12 Coast Guard (USCG) on January 28, 2004 and a Submerged Land Lease Application to  
13 the CSLC on February 10, 2004. On July 3, 2006, Clearwater Port, LLC submitted a  
14 restated and amended application to the USCG and the CSLC because the project  
15 proponent and project description had changed. The proposed Clearwater Port terminal  
16 is projected to be operational by 2010."Clearwater Port would use existing offshore  
17 Platform Grace (approximately 29 miles [47 km] southeast from the EMT) to import  
18 LNG. Reconfiguration of the platform would involve installing an LNG transfer system, a  
19 cool down system, six LNG pumps, six LNG vaporizers, and reinstalling and upgrading  
20 the platform's power production capability, while allowing continuing oil and gas  
21 production. LNG would be transported by ship to Platform Grace, where it would be  
22 converted back into vapor form. A new floating dock would be installed adjacent to the  
23 platform to moor LNG vessels during transfer. No additional onsite storage is expected,  
24 but if required, Crystal Energy would contract with existing onshore storage facilities.  
25 The natural gas would be delivered from the platform to shore in a new, 13-mile (21  
26 km), 32-inch diameter (81 centimeter [cm]) sub-sea pipeline, using an existing pipeline  
27 corridor to minimize disturbance to the marine environment. The natural gas would  
28 come onshore by pipeline to a landing at an existing industrial site, the Mandalay Power  
29 Generating Station in Oxnard. From the landfall at Mandalay, a new 12-mile (12 km)  
30 underground pipeline would tie into an existing 30-inch diameter (76 cm) Southern  
31 California Gas Company (The Gas Company) pipeline at their preferred pipeline tie-in  
32 point near Camarillo.

33 Average anticipated LNG terminal throughput capacity would be 800 million cubic feet  
34 per day (MMCFD) (23 million m<sup>3</sup>/d), with a peak throughput capacity of 1,200 million  
35 standard cubic feet per day (MMSCFD) (34 million m<sup>3</sup>/d).

~~Crystal Energy filed its application with the United States Coast Guard on January 28, 2004, and the CSLC on February 10, 2004. The application was reviewed by these agencies and was deemed incomplete by both agencies. The proposed terminal is projected by such applications to be operational by early 2007.~~

*The text on Page 4-12 was modified to remove the hyphens between "PRC" and "421":*

#### *6. State Lease PRC\_421 Remnant Pier Removal, ARCO*

The objective of this project proposed by ARCO was to facilitate continued nesting and roosting of marine birds, while making the area safer for mariners. The remnants of the pier within State Lease PRC\_421 are located approximately 2 miles (3.2 km) west of Coal Oil Point in the Santa Barbara Channel, off the coast of the city of Goleta. The visible remnant pier structure is approximately 850 feet (260 m) offshore in approximately 32 feet (10 m) of water.

*The text on Page 4-13 was modified to provide an updated status of Venoco's Full Field Development Project:*

Oil production is expected to peak at 12,600 BPD (2,003 m<sup>3</sup>/day) and gas production at 20 MMSCFD (566,337 m<sup>3</sup>/day) after five years. ~~The application was found incomplete and is being revised~~is currently in the environmental review process. Although the schedule for this project is unknown, if the project is implemented, it would result in the decommissioning and abandonment of the EMT since there would be no further need for barging.

*The text on Page 4-14 was modified to update the status of the Platform Grace Mariculture Project:*

Development of the Grace Mariculture Project would not require any substantial new equipment on the platform or modification of the existing platform structure. As proposed, the project would include four submerged cages around the platform as well as tanks on the main platform deck for hatchery and nursery operations. The project would utilize the existing platform infrastructure and energy resources at well-below-historical levels and well within the design parameters of the structure. The pilot scale phase of the project is expected to last three years, at the end of which, the project would be reassessed. This project will either be finished or could potentially co-exist with the Clearwater Port LNG Terminal on Platform Grace (described in No. 2, above), by the time the LNG Terminal project is considered~~This project will either be finished or could potentially co-exist with the Crystal Energy LNG Terminal on Platform Grace~~

(described in No. 2, above), by the time the LNG Terminal project is approved and its construction begins.

*The text on Page 4-14 was modified to update the status of the proposed resumption of production on Platform Grace.*

In 2005 Venoco has announced plans to resume oil production at Platform Grace (approximately 29 miles [47 km] southeast of the EMT). Venoco has not yet filed an application so the details of the project are not known. It is doubtful that returning Platform Grace to production would coexist with the implementation of the Clearwater Port LNG Project (No. 2). ~~It is doubtful that returning Platform Grace to production could coexist with the implementation of the Crystal Energy LNG Terminal (No. 2) and the mariculture project (No. 9).~~

## SECTION 4.1: GEOLOGICAL RESOURCES

*The mitigation measure on Page 4.1-18 was modified to use ground acceleration instead of Richter magnitude as a measure of a significant seismic event. This change is consistent with the existing seismic monitoring program for Line 96:*

**GEO-5a. Seismic Inspection.** The Applicant shall cease terminal operations and inspect all EMT pipelines and storage tanks following any seismic event in the region (Santa Barbara County and offshore waters of the Santa Barbara Channel and Channel Islands) that exceeds a ground acceleration of 13 percent of gravity (0.13 g) ~~Richter magnitude of 4.0~~. The Applicant shall report the findings of such inspection to the CSLC and the SSRRC and shall not reinstitute operations of the EMT until authorized to do so by the CSLC.

## SECTION 4.2: HAZARDS AND HAZARDOUS MATERIALS

*Table 4.2-3 on Page 4.2-10 was expanded to include a discussion of inspections that have been performed, but were not discussed in the DEIR. Additional text was also included to provide a description of the inspections that were added to Table 4.2-3:*

**Table 4.2-3**  
**Santa Barbara County Energy Division Files Recent History**

Year	Audit, Test, Procedure
1995	Hydrotest of loading line – passed. Ultrasonic testing on selected areas of onshore portion of loading line – no issues. CSLC inspection Replaced most onshore loading line supports.
1998	Overhauled mooring system, pressure tested hose – no issues. Heavy storms expose significant portion of loading line on beach. Subsequent studies were provided by Venoco in regard to the ability of the pipeline to support the span across the beach – estimated ok up to 40 to 68 ft- Ultrasonic testing on selected locations of 10-inch pipe around span area – ok.
1999	Ultrasonic testing conducted on selected portions of onshore loading line in relation to the spanning issue – no issues. Analysis by County on span issue estimated ok up to 30 ft. The barge Jovalan Air Pollution Control District (APCD) and CSLC safety audit and emissions testing – deficiencies related to air emissions and procedures/documentation. APCD abatement order Systems Safety and Reliability Review Committee (SSRRC) and CSLC facility audit
2000	Hydrotest – leak developed on 12/13 test at approx 750 ft. from the pump house was weld patched. Passed subsequent hydrotest on 12/21 Ultrasonic testing on selected portions – indicated anomaly 300 ft. south of EMT fence-line. Conventionally patched. Accuracy of ultrasonic testing (UT) in question.
2001	Ultrasonic testing of 23 ft. of the 10-inch line close to water line. Thickness good but some coating failure and exposure. Recommended recoating Ultrasonic testing of 12-inch line from pump house to beach – no anomalies and no evidence of excessive internal corrosion. Numerous areas with no external coating. Recommended prepping and coating. Some rusting and support issues for valves and flange components. Noted no lateral or vertical restraint support features. First Long Range Guided Ultrasonic Screening (GUL) inspection: approx. 100 ft. of 10-inch line at the beach – general wall loss of 15 percent (0.34 from 0.40 inch). Entire 12-inch line tested – isolated corrosion pits with up to 35 to 44 percent wall loss with minimum wall thickness of 0.210 inch. Analysis of loading pipeline stresses – ok Hydrotest of loading line – ok
2002	Line 96 hydrotest – ok GUL testing – similar to 2001 <u>Cathodic protection survey of pipeline end manifold (PLEM) and close interval cathodic protection system survey of the surf to EMT pipeline.</u> Overhauled mooring system, pressure tested hose – no issues.
2003	Hydrotest of loading line – passed
2004	Maintenance and Quality Assurance Program inspection – leak at EMT Tank 8264 oil inlet area GUL inspection – similar to previous
2005	Hydrotest of loading line – passed EMT Tank floating roof failure

1 A number of concerns have been raised by the public in regards to the loading pipeline  
2 where it crosses the beach area. The pipeline was exposed in the 1996 and 1998  
3 storms resulting in a significant free-span, which was subsequently covered up by sand.  
4 There was also concern about the debris on the beach during the storms and possible  
5 impacts to an exposed pipeline. The concerns are associated with the stresses that  
6 may have been generated in the pipe due to the free span. Free span during the 1996  
7 and 1998 exposures has been estimated at up to 50 feet. Calculations performed by  
8 Venoco and the County indicate that significant stresses could occur for free spans in  
9 the range of 30-90 feet. The County and Venoco have agreed to monitor the pipeline to  
10 ensure that the free span does not exceed 30 feet.

11 In addition, Guided Ultrasonic Wave (GUL) testing has been conducted on the pipeline  
12 for the portions of the pipeline that are land-ward of the flange on the pipeline at the  
13 beach (land-ward of the two pipe bends). These pipeline integrity tests indicate that the  
14 beach portion of the marine pipeline had a maximum wall loss of 15%, or within the  
15 acceptable range as defined by the CSFM and DOT. In addition, "close interval"  
16 cathodic protection survey was conducted in 2002 indicating that the cathodic protection  
17 system, from the surfline land-ward, was operating correctly.

18 Based on these inspections, the County Energy Division and Building and Safety  
19 Department have indicated that the pipeline inspections and testing do not exhibit any  
20 indication of permanent damage and that the pipeline is being operated in accordance  
21 with state regulations for the system (County of Santa Barbara, 2002).

22 *The following text was added to include more information on EMT inspection*  
23 *requirements, as well as the status of the most recent inspections:*

24 A summary of the inspections and inspection requirements conducted at the EMT is  
25 shown in Table 4.2-4 below.

**Table 4.2-4**  
**Inspection Requirements and Practices**

Component	Inspection	Current Practice
Crude tank	SBCAPCD seal inspections annually	Yes
	API 653 inspections: Ultrasonic every 5 yrs Tank bottoms every 10 yrs	No records available No records available
Pipeline	Cathodic Protection annually	Yes
	Pressure testing every 3-5 years	Yes
	CSLC inspection	Yes, last in 1999
	API 570 corrosion inspections	Yes, in 2004, but only on selected portions of the pipeline
Barge	Response drills as per USCG	No records available
	Mooring system maintenance annually	Yes
Fire water systems	Fire department annually	Yes
General Facility	SIMQAP audit	Yes, in 2000

*The first paragraph on Page 4.2-20 was modified to clarify that anchors are not used at the EMT, thus reducing the probability that an EMT barge or tugboat anchor would damage the loading pipeline:*

Spill frequencies were estimated for the proposed Project using information on crude-oil pipeline spill rates available from the CSFM report. Although the CSFM study does not include offshore pipelines or pipelines that operate in batch mode (some pipelines in the CSFM report most likely do operate in batch mode, but the failure rate for these pipelines was not detailed), the CSFM data are considered to be the most conservative of the databases available, i.e., most protective of the environment. Pipelines that operate offshore are exposed to a more extreme environment, i.e., more corrosive, different set of third party impacts (boats, anchors, etc), than onshore pipelines and might be expected to have a higher failure rate. The current operations involve the use of established moorings, which reduces the probability of an anchor impacting the marine pipeline. Batch pipelines, where the oil is moved in batches, experience greater pressure variations than continuously operating pipelines and may experience a higher failure rate.

*Table 4.2-7 (formerly 4.2-6) on Page 4.2-21 was modified to include slightly changed pipeline failure rates:*

**Table 4.2-76**  
**Current Operations Pipeline System Failure Rates and Probabilities**

Pipeline and Scenario	Failure Rate (events per year)	Lifetime Spill Probability (percent) <sup>2</sup>
Line 96 - Leak	$3.5 \times 10^{-2}$	30
Line 96 - Rupture	$6.3 \times 10^{-3}$	6.2
EMT loading line – Leak on Land	$1.14 \times 10^{-2}$	11
EMT loading line – Leak on Ocean	$1.7284 \times 10^{-1}$	824
EMT loading line - Rupture on Land <sup>3</sup>	$8.0316 \times 10^{-5}$	0.1
EMT loading line - Rupture on Ocean <sup>3</sup>	$89.6394 \times 10^{-4}$	0.9

<sup>2</sup> Based on a 10-year lifetime, probability of a single spill

<sup>3</sup> EMT line rupture rate applies only to while it is operating.

Table 4.2-8 (formerly 4.2-7) on Page 4.2-22 was modified to include slightly changed pipeline failure rates:

**Table 4.2-87**  
**Current Operations EMT Failure Rates and Probabilities**

Scenario	Failure Rate (events per year)	Lifetime Spill Probability (percent) <sup>4</sup>
Rupture of crude oil piping - outside of tank berms	$1.01 \times 10^{-4}$	0.1
Leak from crude oil piping - outside of tank berms	$1.15 \times 10^{-3}$	1.1
Equipment Rupture - Inside of tank berms	$4.619 \times 10^{-4}$	0.5
Equipment Rupture - sustained release during pumping	$1.829 \times 10^{-5}$	<0.1

<sup>4</sup> Based on a 10-year lifetime, probability of a single spill.

The following text was added to Page 4.2.25 (immediately following DEIR Table 4.2-9) to clarify the potential for multiple oil spills over the lifetime of the project:

### **Multiple Releases**

There is the probability that multiple spills could occur over the lifetime of the Project. The lifetime spill probabilities developed above are based on the frequency of one or more spills occurring over the project lifetime. In order to estimate the probability that more than 1, non-simultaneous spill occurs over the lifetime of the facility, it is assumed that each spill acts independently of the other and that the previous spill does affect the frequency of subsequent spills. In actuality, a spill could generate a number of facility modifications that would reduce the frequency of spills. However, as a worst case, it is



1 assumed that the frequency remains the same.

2 In order to estimate the probability of multiple, non-simultaneous spills, probability  
 3 theory and statistics are used. The Poisson distribution is a discrete probability  
 4 distribution that expresses the probability of a number of events occurring in a fixed  
 5 period of time if these events occur with a known average rate, and are independent of  
 6 the time since the last event. The distribution was discovered by Siméon-Denis Poisson  
 7 (1781–1840). The probability that there are exactly k occurrences is given below.

$$8 \quad f(k; \lambda) = \frac{e^{-\lambda} \lambda^k}{k!},$$

9 where e is the base of the natural logarithm (e = 2.71828...), k is the number of  
 10 occurrences and  $\lambda$  is a positive real number, equal to the expected number of  
 11 occurrences that occur during the given interval.

12 Utilizing the Poisson equation, the probability that there would be 2 leaks from the  
 13 marine loading line over the course of the project life would be 27%, 3 leaks 16% and 4  
 14 leaks 7%. The probability that there would be 2 small spills from the barge would be 2%  
 15 and the probability that there would be 2 leaks from the EMT equipment would be less  
 16 than 0.01%.

17 *The following paragraph on Page 4.2-27 of the DEIR was modified to clarify potential oil*  
 18 *spill impacts when the barge is not loading:*

19 The MMS model estimates that during periods when there is no pumping and the EMT  
 20 loading line is not under pressure but is left full of oil, between 1 and 5 bbl (0.004 and  
 21 0.019 m<sup>3</sup>) of oil would be released from the pipeline if a hole develops in the sub-sea  
 22 piping or equipment. If a break were to occur at the beach while the barge is not  
 23 loading, the pipeline section between the beach break and the isolation valve would  
 24 drain to the beach. This volume is estimated to be approximately 75 bbls, or 3,150  
 25 gallons (11.6 m<sup>3</sup>).

26 *The following text in Section 4.2.2, Page 4.2-32 was modified to summarize applicable*  
 27 *Federal oil spill regulations.*

28 A number of Federal laws regulate marine terminals and vessels. These laws address,  
 29 among other things, design and construction standards, operational standards, and spill  
 30 prevention and cleanup. Regulations to implement these laws are contained primarily in

Titles 33 (Navigation and Navigable Waters), 40 (Protection of Environment), and 46 (Shipping) of the Code of Federal Regulations (CFR). ~~The most recent act to address spill prevention and response is OPA 90.~~

*The following text was added to Page 4.2-38 to clarify USCG and CDFG areas of responsibility and contingency planning:*

**U.S. Coast Guard and California Department of Fish and Game Area Contingency Plans**

The OPA 90 required contingency planning for both State and Federal Governments. The USCG and California Department of Fish and Game - OSPR agreed to joint preparation of contingency plans through co-chairing the three Port Area Committees for Contingency Planning: USCG Port Areas for San Francisco, Los Angeles / Long Beach, and San Diego. The Santa Barbara area is covered by the Los Angeles/Long Beach plan. The ACP addresses command, operations, planning, logistics, finance, haz mat, fire fighting, ecologically sensitive sites.

*The following text was added to Page 4.2-46 to clarify USCG and CDFG areas of responsibility and contingency planning:*

The CDFG also developed the Area Contingency Plan in cooperation with the USCG. See discussion under the USCG above.

*The following text was added to Page 4.2-54, with modifications to Table 4.2-12 (formerly Table 4.2-11), to clarify that pipeline failure rates would be similar to baseline conditions, but not identical:*

Line 96 failure rates would ~~remain the same~~ be similar as to the current operations because the failure rate of a pipeline is not a function of the throughput or the operating pressures (CSFM 1993) and the pipeline is normally full of oil even when not transferring in batch mode. Spill volumes for Line 96 would be somewhat greater for the proposed case as the pipeline is operating more, but a rupture or leak from the pipeline would still spill a similar volume of oil as most of the oil from spills is generated by the volume of oil in the pipeline (about 1,700 bbls [270 m<sup>3</sup>]), ~~not as opposed to~~ the actual pumping rate (about 20 bbls/minute [3.2 m<sup>3</sup>/minute]). (This is not the case on the loading line as the pumping rates are very high.)

Expected spill frequencies and probabilities are shown in Tables 4.2-12~~4~~ and 4.2-13~~2~~ for pipeline and barge operations, respectively, along with the current baseline

operations.

**Table 4.2-12<sup>1</sup>**  
**Permitted Operations Pipeline Systems Failure Rates and Probabilities**

Pipeline and Scenario	Current Operations		Permitted Operations	
	Failure Rate (events per year)	Lifetime Spill Probability (percent) <sup>7</sup>	Failure Rate (events per year)	Lifetime Spill Probability (percent) <sup>7</sup>
Line 96 - Leak	$\frac{3.5 \times 10^{-2} \times 10^{-2}}{3.5 \times 10^{-2}}$	<u>30</u> 30	$3.5 \times 10^{-2}$	30
Line 96 - Rupture	$\frac{6.3 \times 10^{-3} \times 10^{-3}}{6.3 \times 10^{-3}}$	<u>6.2</u> 6.2	$6.3 \times 10^{-3}$	6.2
EMT loading line – Leak on Land	$\frac{1.14 \times 10^{-2}}{1.14 \times 10^{-2}}$	<u>11</u> 11	$1.41 \times 10^{-2}$	10
EMT loading line – Leak on Ocean	$\frac{1.72 \times 10^{-1}}{1.81 \times 10^{-1}}$	<u>82</u> 84	$1.794 \times 10^{-1}$	<u>81</u> 6
EMT loading line – Rupture on Land <sup>8</sup>	$\frac{8.01 \times 10^{-5}}{8.36 \times 10^{-5}}$	<u>0.1</u> 0.1	$32.144 \times 10^{-4}$	0.3
EMT loading line – Rupture on Ocean <sup>8</sup>	$\frac{8.63 \times 10^{-4}}{9.01 \times 10^{-4}}$	<u>0.9</u> 0.9	$32.63 \times 10^{-3}$	3.2
Pumps and pumping equipment	$\frac{3.5 \times 10^{-2} \times 10^{-5}}{3.5 \times 10^{-5}}$	<u>30</u> <0.1	$5.6 \times 10^{-5}$	0.1

<sup>7</sup> Based on a 10 year lifetime, probability for a single spill

<sup>8</sup> EMT line rupture rate is only while operating.

The following text was added on Page 4.2-55 following DEIR Table 4.2-12 to address the potential for multiple oil spills over the project lifetime.

The probability that there would be multiple leaks would increase primarily for the barge spills. The probability of releases from the marine loading line would increase marginally for the proposed Project because the marine pipeline is always full of oil even when not loading, so leaks could occur at any time. Utilizing the Poisson equation, the probability that there would be 2 small spills from the barge would increase to 18% (from 2%), 3 small spills would increase to 6% (from less than 1%) and 4 spills would be about 1%.

The discussion of potential impacts under “Impact HM-2: Risks of Crude Oil Spills to the Environment” on Page 4.2-58 was modified to clarify that the proposed mitigation measures would also reduce the severity of potential oil spills:

Mitigation measures (MM) listed in Sections 4.4, Hydrology, Water Resources and Water Quality, 4.5, Biological Resources, and 4.1, Geological Resources, and those MMs listed below for impacts related to oil spill compliance and response would reduce

1 | the severity and frequency of oil spills. However, risk of spills to the environment would  
2 | still increase over current operations. Therefore, potential impacts associated with  
3 | crude oil spills to the environment would be significant (Class I).

4 | *The discussion of potential impacts under “Impact HM-3: Increased Spill Sizes Due to*  
5 | *Loading Pipeline Vacuum/Evacuation Operation” on Page 4.2-58 was modified to clarify*  
6 | *the ability of the EMT loading line to operate under vacuum:*

7 | This would reduce the size of a leak over the scenario where no vacuum is available.  
8 | The regulations also state that, during mooring, a vacuum shall be maintained on the  
9 | loading line. The EMT ~~cannot~~ is currently not equipped to currently operate the loading  
10 | line in a vacuum. Currently, the facility has a waiver for the vacuum operation  
11 | requirement from the CSLC. Also, in lieu of operating in a vacuum, the ability to pump  
12 | seawater back through the loading pipeline to clear the loading pipeline of oil in the  
13 | event of a spill would provide the same level of protection and reduce the size of the  
14 | spill. The barge is only capable of doing this when it is full, as the intake for the  
15 | seawater pumps on the barge is above the water line when the barge is not sitting low  
16 | in the water (barge is empty). The Emergency Action Plan (EAP) states to displace the  
17 | loading pipeline with seawater in the event of a loading pipeline spill. However, this  
18 | would not be possible if the barge is not full. This impact would be significant (Class II).

19 | *The discussion of mitigation rationale under “Impact HM-3: Increased Spill Sizes Due to*  
20 | *Loading Pipeline Vacuum/Evacuation Operation” on Page 4.2-59 was modified to clarify*  
21 | *the time required to implement Mitigation Measure HM-3a:*

22 | The ability to draw a vacuum on the loading line or to evacuate the loading line could  
23 | substantially reduce the size of a release from the pipeline if a leak occurred. This  
24 | would enable a negative pressure to be placed on the pipeline, drawing ocean water  
25 | into the pipeline, or to pump out the oil in the loading pipeline and back to the EMT  
26 | tanks as opposed to oil spilling into the marine environment. This would be  
27 | accomplished by installing piping capable of running the pumps at the EMT in a mode  
28 | that moves the oil from the pipeline back to the tanks or modifying the intake on the  
29 | barge Jovalan to be below the water line when the barge is empty. Installation of the  
30 | equipment could be completed in 1 - 2 months.

31 | *The discussion of potential impacts under “Impact HM-4: Increased Spill Sizes Due to*  
32 | *Loading Pipeline Leak Detection” on Page 4.2-60 was slightly modified to clarify the*  
33 | *potential impacts:*

Section 2569, CSLC regulations, indicates that a terminal loading line should be equipped with a leak detection system if it is a Class II pipeline (has experienced recent leaks or located in sensitive areas). This requirement can be fulfilled by pressure testing if the loading line is not equipped with a hose. The EMT loading line is equipped with a hose, ~~but is also not a Class II pipeline~~. A leak detection system capable of detecting at least a 2 percent loss of flow balance would enable a leak to be detected during periods when the pipeline route is not visible, such as at night or during foggy periods or other periods of low visibility, and might enable a leak to be detected faster during normal operations. Faster detection of a leak would enable quicker mobilization of spill clean-up efforts, even during nighttime and foggy periods. This impact would be significant (Class II).

*Mitigation Measure HM-4a on Page 4.2-60 was modified to allow for an operator to continuously monitor barge loading during non-daylight hours:*

**HM-4a. Loading Pipeline Leak Detection.** The Applicant shall ensure that both the shipping end and the receiving end of the loading pipeline are equipped with flow meters and that the flow meters utilize a means of conducting automatic and continuous flow balancing to an accuracy of at least 2 percent. Any deviations shall activate an alarm system at both the shipping and receiving locations. ~~Barge loading should only occur during daylight hours when there is clear visibility to ensure smaller leaks are detectable.~~ All loading operations shall be observed by an operator who is on duty at all times during loading to ensure rapid detection of leaks or spills.

*The rationale for the modifications to Mitigation Measure HM-4a was included on Page 4.2-60:*

As the loading times for the barge extend into the nighttime, and Coal Oil Point is frequently foggy with reduced visibility, a means of detecting a leak that does not rely on visual inspection could substantially reduce the response time to a leak. This could reduce the size of a pipeline leak and its resulting impacts to coastal resources. A leak detection system would not detect smaller leaks, below the 2 percent value. Therefore, loading of the barge should ~~only occur during daylight hours when there is clear visibility. This would enable detection of spilled oil on the water or soil surfaces~~ be accompanied by operator attendance at all times. As the loading times exceed daylight hours for a good portion of the year, loading would occur during nighttime hours at

1 some times. Installation of the equipment could be completed in 1 - 2 months.

2 *Mitigation Measure HM-5a on Page 4.2-61 was modified to allow for only partial*  
3 *booming of the barge for safety reasons. Three sides of the barge would remain*  
4 *boomed during all loading operations:*

5 **HM-5a. Loading Booms.** The Applicant shall pre-boom all oil transfers using  
6 booms that are effective for the ocean conditions at the EMT location. For  
7 loading operations, the boom shall enclose the water surface surrounding  
8 three sides of the vessel to provide containment for the entire-vessel at the  
9 waterline (the seaward side of the vessel may remain unboomed to allow  
10 for vessels to reach the barge in the event of an emergency). The boom  
11 shall be deployed so that it provides a stand-off of not less than 4 feet (1.2  
12 2m) from the outboard side of the vessel.

13 *The discussion of potential impacts under "Impact HM-6: Spills Due to Loading Pipeline*  
14 *Failure from Inadequate Loading Pipeline Inspections" on Page 4.2-62 was modified to*  
15 *clarify loading pipeline inspection requirements and specific difficulties associated with*  
16 *the EMT pipeline:*

17 As the loading pipeline has been in service for an extended period of time, there is the  
18 possibility of corrosion of the pipeline which could lead to a release of crude oil. Tests  
19 conducted by the applicant using Long Range Guided Ultrasonic Screening (GUL) were  
20 conducted in 2001, 2002 and 2004 and showed acceptable corrosion levels. However,  
21 these tests were only conducted on the loading line between the water-beach and the  
22 loading line pumps. Uncertainty remains as to the quality of the pipeline that is both  
23 under the sand at the intertidal zone and offshore. CSLC indicates, through API 570  
24 and CSLC publications related to API 570 (CSLC 2005) that pipe thickness  
25 measurements and corrosion rate estimates are to be performed for all sections of  
26 piping. Technologies such as retractable/bi-directional pigs ~~are~~ could be commercially  
27 available that could be inserted into the pipeline at either the hose location or near the  
28 pump-house location to inspect the entire pipeline, thereby helping to ensure the  
29 pipeline integrity (Nye 2000; A'Hak 2005). However, these pigs most likely would not be  
30 able to negotiate the turns in the pipeline located at the beach area. Either the turns  
31 would need to be replaced with piggable turns or the pigs would need to be inserted at  
32 each end of the pipeline.

33 In the absence of retractable pigs, pipeline pressure tests could be conducted annually  
34 for a period of 4 hours at 125% the maximum operating pressure. It is not clear from

the pressure test history as to the time between tests and the frequency of tests should be well established.

Extensive Guided Ultrasonic Wave (GUL) testing was conducted on parts of the pipeline from the beach pipe flange towards the EMT. GUL testing produces results comparable to a smartpig, indicating the condition of the pipeline in regards to internal and external corrosion and anomaly issues. However, a program of GUL testing on a periodic basis does not appear to be established through the beach area and as far as practical into the intertidal zone. An appropriate interval would be at a minimum of every 3 years (CSFM requirement for pressure testing for Class II pipelines).

Visual inspection of the pipeline ensures that there are no unsupported spans, either on the beach or underwater along the pipeline route between the beach and the loading hose, and that debris is not impacting the pipeline. Unsupported spans can increase the stresses in a pipeline, thereby increasing the frequency of pipeline failure. Remotely operated vehicle (ROV) or diver inspections of the underwater portion of the pipeline should be conducted periodically. ROV inspection of Platform Holly and seep tent pipelines were conducted in 2003.

*Mitigation Measure HM-6 on Page 4.2-62 was modified to allow for greater flexibility in implementation:*

**HM-6a. Loading Pipeline Integrity Inspections.** The Applicant shall investigate and utilize, if applicable, a non-destructive testing procedure, which will enable inspection of the loading pipeline from the pump-house to the hose connection for both corrosion, internal and external, and for allowable pipe stresses due to settling. The Applicant shall also conduct pressure testing of the pipeline annually at 125% MAOP for 4 hours. A program of GUL, or equivalent, testing of the pipeline as far into the intertidal zone as practical should be established with testing at a minimum of every 3 years. Close interval cathodic protection testing should be conducted every 3-5 years to ensure that the cathodic protection system is operating correctly the entire length of the pipeline. ~~Visual inspection of the entire pipeline route for unsupported spans or other pipeline route anomalies should also be conducted at least every 3 years.~~

**HM-6b. Loading Pipeline Visual Inspections.** Visual inspection of the entire pipeline route for unsupported spans or other pipeline route anomalies should be conducted at least every 3 years. The beach section of the

1 pipeline should be inspected during and after storms to ensure that free-  
2 spans do not exceed 30 feet and that beach debris does not impact the  
3 pipeline. Written results of each inspection should be submitted to the  
4 County and the CSLC. If the pipeline becomes exposed, all efforts should  
5 be made to conduct GUL inspections and pipe-wrap repairs as directed by  
6 the County in previous correspondence (SBC, 2002). Loading of the barge  
7 should not be conducted when wave action threatens the integrity of the  
8 marine loading pipeline.

9 *The rationale for Mitigation Measure 6 on page 4.2-63 was expanded to address*  
10 *potential implementation problems and alternative mitigation:*

11 Pressure testing of the pipeline helps to ensure sufficient pipeline integrity and that  
12 pipeline corrosion or other defects do not compromise the pipeline integrity between  
13 tests. A close interval cathodic protection (CP) analysis was conducted in 2002. A  
14 program to conduct close interval cathodic protection surveys, which are a thorough  
15 cathodic protection survey, should be conducted on a regular (3-5 years) basis to  
16 ensure that the CP system has not been compromised.

17 ~~Inspections of the offshore portions of the pipeline would help to ensure that corrosion is~~  
18 ~~not an issue just as GUL inspections ensured that corrosion does not develop in the~~  
19 ~~onshore portions of the pipeline.~~

20 Visual inspection of the pipeline corridor would help to ensure that unsupported spans  
21 do not compromise the offshore integrity of the pipeline. As the pipeline has a history of  
22 being exposed during heavy storms, the pipeline should be inspected during and after  
23 storms to ensure that unsupported spans do not exceed 30 feet and that debris does  
24 not impact the pipeline.

25 *The discussion of potential impacts under “Impact HM-8: Increased Spill Size Due to*  
26 *Spill Response Planning and Drills” on Page 4.2-65 was modified to note that Venoco*  
27 *maintains an Oil Spill Contingency Plan for the South Ellwood Field that also covers the*  
28 *EMT:*

29 Venoco maintains an Oil Spill Contingency Plan (OSCP) for the South Ellwood Field  
30 that covers the EOF, EMT, Line 96, Ellwood Pier, Platform Holly, and Beachfront Lease  
31 PRC 421. The OSCP (Venoco 2005b) details the inspection and maintenance  
32 procedures as well as training and drills for the covered facilities, in addition to the spill  
33 response capabilities.



*The discussion of potential impacts under “Impact HM-9: Spills Due to Barge Hull Penetrations” on Page 4.2-66 was modified to note the need for replacing the barge Jovalan with a double-hulled barge:*

Current regulations require the replacement/conversion of the barge Jovalan with/to a double hulled barge by 2015. As the barge Jovalan is less than 5,000 gross tons (4,536 metric tons), it must comply by 2015 instead of the 2010 requirement associated with larger vessels. Double-hulled vessels have a lower frequency of spills due to the added protection that the double hull provides given a grounding, collision, allision, or bottom puncture. Requiring that the barge Jovalan convert to a double hulled vessel ~~before the 2015 date~~ sooner than the regulations require would reduce the risk of an oil spill due to these causes. This would be considered a significant impact (Class II).

*Mitigation Measure HM-9a on Page 4.2-66 was modified to require double-hulled barges at the EMT within 18 months as a condition of the lease renewal. The original measure allowed for double-hulled barges to be phased in by 2010 when all crude oil vessels would be required to have either double bottom or side hulls:*

**HM-9a. Double Hull Barges in Near Term.** The Applicant shall replace or ~~convert~~ the barge Jovalan with a double-hulled barge, or convert the Jovalan to a double-hulled vessel within 18 months of lease approval. Any replacement barge would be required to meet or improve upon the existing Barge Jovalan’s emission control system as described in the Air Quality section of the Draft EIR and Finalizing Addendum. ~~by the 2010 timeframe established by CFR Title 33 as the phase in date for larger vessels to be double-hulled vessels.~~

*The rationale for Mitigation Measure HM-9a was modified to note specific implementation issues associated with switching to a double-hulled barge:*

Historically, many major spills from barges are related to groundings, collisions, or allisions that may have been reduced by the presence of double hulled vessels. The DOT estimates that double hulled vessels have a conditional probability of spills given a barge incident of 5 times less than that of single hulled vessels. Many of the barge release scenarios would benefit from double hulls, including collisions with other vessels or with the tug, allisions with mooring buoys, loss of control and subsequent grounding, bottom punctures, etc. Conversion of the barge to a double hulled vessel ~~on a timeframe equal to that of larger vessels, by 2010,~~ would reduce the probability of a spill given a barge incident. This measure most likely would take 6-12 months to implement

1 as either an additional barge, such as the Dotty (a double hulled barge operated by the  
2 same company that operates the Jovalan) would need to fitted with vapor control  
3 equipment, or the Jovalan would need to be reconstructed.

4 *The text on page 4.2-67 was modified to note that baseline conditions would persist*  
5 *until the EMT is shut down:*

6 Under the No Project Alternative, the risks associated with oil spills into the environment  
7 and the risks associated with toxic vapor releases and thermal radiation from fire would  
8 cease to exist as with existing operations until the EMT facilities are shut down.  
9 Increased risks associated with other crude oil transportation methods would most likely  
10 exist.

11 *The text on page 4.2-76 was modified to refer the reader to the impact discussions for*  
12 *BIO-9 and BIO-10:*

13 Risks from oil transportation by pipeline are the lowest of any form of transportation. As  
14 the pipeline would be a new pipeline with pigging capabilities, it would have a  
15 substantially lower failure rate than either the Line 96 pipeline or the existing EMT  
16 loading line. A risk of impact to the environment would remain, however, as a release  
17 from the pipeline alternative could drain into gullies and drainage area and reach the  
18 marine environment. However, impacts to the marine environment would require a  
19 large spill in order to reach the ocean, and impacts would most likely be smaller and  
20 less frequent than a release that occurs directly into the marine environment, such as  
21 from the loading line. See section 4.5, Biological Resources, impacts BIO-9 and BIO-10  
22 for a discussion of the impacts to biological resources. This impact would be beneficial,  
23 Class IV.

#### 24 **SECTION 4.3: AIR QUALITY**

25 *Table 4.3-6 and the associated text on page 4.3-9 were modified to clarify permitted and*  
26 *exempt emission sources:*

#### 27 **Project Facilities Permits and Baseline Emissions**

28 The proposed Project's air quality baseline includes existing emissions from both the  
29 permitted and exempt equipment at the project facilities, including the Ellwood Marine  
30 Terminal (EMT), project vessels, and equipment on the barge Jovalan. The permitted  
31 emissions for the facilities, including mobile sources such as the tug and assist vessels

that are required to move the barge Jovalan, are covered under the appropriate SBCAPCD Permits to Operate (PTOs): PTO No. 8232-R5 (SBCAPCD 2004a) for the EMT and vessels, and PTO No. 8233-R5 (SBCAPCD 2004b) for the barge Jovalan (also see Appendix D, Air Quality). ~~Some equipment is exempt under the APCD Rules (SBCAPCD 1999). However, this equipment still produces air pollutant emissions, although small and not requiring an APCD permit, that need to be analyzed under the CEQA. The APCD Rules under which equipment would be considered exempt are summarized in Section 4.3.2, Regulatory Setting.~~

Table 4.3-6 identifies the categories of project equipment sources.

**Table 4.3-6  
Project Facilities Emission Sources**

EMT and Vessels	Barge Jovalan
<b>Permitted Equipment and Emissions:</b> <ul style="list-style-type: none"> <li>- Fugitive ROC from the two oil storage tanks</li> <li>- Fugitive ROC from piping components and pump seals</li> <li>- ROC, NO<sub>x</sub>, CO, PM<sub>10</sub> and SO<sub>2</sub> from tug vessel main and auxiliary engines, and generator engine</li> <li>- ROC, NO<sub>x</sub>, CO, PM<sub>10</sub> and SO<sub>2</sub> from assist vessel main engine, and generator engine</li> <li>- ROC, NO<sub>x</sub>, CO, PM<sub>10</sub> and SO<sub>2</sub> from Emergency response vessel engine</li> </ul>	<b>Permitted Equipment and Emissions:</b> <ul style="list-style-type: none"> <li>- ROC, NO<sub>x</sub>, CO, PM<sub>10</sub> and SO<sub>2</sub> from three Vapor Recovery Unit (VRU) Internal combustion (IC) engines exhaust products</li> <li>- ROC emissions displaced during filling of the barge Jovalan holds (tanks) with crude oil</li> <li>- Fugitive hydrocarbons from various piping and pressure relief device components</li> <li>- Fugitive emissions from sump</li> <li>- <u>ROC, NO<sub>x</sub>, CO, PM<sub>10</sub> and SO<sub>2</sub> from diesel-fired IC engine with 89 brake-horsepower rating</u></li> </ul>
<b>Permit-exempt Equipment:</b> <ul style="list-style-type: none"> <li>- None</li> </ul>	<b>Permit-exempt Equipment:</b> <ul style="list-style-type: none"> <li>- <u>None ROC, NO<sub>x</sub>, CO, PM<sub>10</sub> and SO<sub>2</sub> from diesel-fired reciprocating IC engine with 89 brake horsepower rating or less</u></li> </ul>

Table 4.3-7 on page 4.3-10 was modified to clarify permitted emission levels associated with EMT marine vessels:

**Table 4.3-7  
EMT Facilities Current and Permitted Emissions**

Facility	NO <sub>x</sub> tons/yr (lbs/day)	ROC tons/yr (lbs/day)	CO tons/yr (lbs/day)	SO <sub>2</sub> tons/yr (lbs/day)	PM <sub>10</sub> tons/yr (lbs/day)
<b>2001 Emissions</b>					
Ellwood Marine Terminal and Vessels	4.84	0.99	0.50	0.06	0.29

**Table 4.3-7  
EMT Facilities Current and Permitted Emissions**

Facility	NO <sub>x</sub> tons/yr (lbs/day)	ROC tons/yr (lbs/day)	CO tons/yr (lbs/day)	SO <sub>2</sub> tons/yr (lbs/day)	PM <sub>10</sub> tons/yr (lbs/day)
Barge Jovalan	0.34	1.23	0.38	0.26	0.11
Total	5.18	2.22	0.88	0.32	0.40
<b>2002 Emissions</b>					
Ellwood Marine Terminal and Vessels	2.99	3.14	0.33	0.06	0.18
Barge Jovalan	1.05	1.14	0.37	0.11	0.12
Total	4.04	4.28	0.70	0.17	0.30
<b>2003 Emissions</b>					
Ellwood Marine Terminal and Vessels	4.98	1.98	0.56	0.07	0.31
Barge Jovalan	1.01	1.13	0.37	0.11	0.12
Total	5.99	3.11	0.93	0.18	0.43
<b>Permitted Emissions</b>					
EMT and Vessels, PTO No. 8232-R5	131.27 (3,789.07)	10.63 (223.44)	14.51 (413.53)	1.62 (46.88)	7.75 (220.87)
Barge Jovalan, PTO No. 8233-R5	85.974 (139.37)	8.863 (184.76)	2.591 (50.79)	0.13 (3.30)	0.649 (11.38)
Total Permitted	137.01 (3,928.44)	19.26 (408.20)	16.52 (464.32)	1.75 (50.18)	8.24 (232.25)
<b>Maximum Exempt Emissions</b>					
Barge Jovalan, PTO No. 8233-R5	3.2	0.2	0.5	0.0	0.2

**Notes:** Totals may not add up due to rounding. There is no exempt equipment associated with PTO No. 8232-R5. 1 ton = 0.9 metric ton. 1 pound (lb) = 0.45 kilogram (kg).

**Source:** SBCAPCD 2004a; SBCAPCD 2004b.

The text on page 4.3-12 was modified to clarify the SBCAPCD's policy on odor complaints:

The SBCAPCD conducts investigations to determine if the odor complaints are associated with the EMT facilities. It is the policy of the SBCAPCD is required to conduct an investigation for each odor complaint received if there are five or more complaints at a time. The results of the SBCAPCD odor complaint investigations for the last 24 months were analyzed as part of this report. The locations where complaints originated were analyzed against data on wind direction and wind speed at the time of the complaint. In 40 percent of the investigated odor complaint cases, the complaint location was downwind of the EMT facilities. In these cases, the SBCAPCD was unable

to confirm the source. In 60 percent of the cases, however, the wind direction and wind speed deem it unlikely that the odor was originating from the EMT or the barge, because the location of the odor complaint was upwind from the EMT and the barge.

*The text on Page 4.3-13 was modified to include odorous mercaptans as a potential source of odor events:*

Some odor events could be attributed to natural gas seeps present in the vicinity of Platform Holly and the barge Jovalan mooring location. Natural gas seeps are a documented phenomenon that is due to the leaking of oil and gas from the sea-floor (see Section 4.1.1, Natural Oil Seeps). Venoco operates two seep tents located approximately 1 mile (1.6 kilometers [km]) southeast of Platform Holly. The seeping gas and oil bubble up from the ocean floor and are captured by the seep tents. The tents were designed specifically to minimize air and water pollution and collect the naturally seeping gas and oil. Natural seeps occur in other locations where they are not captured but escape into the atmosphere, and create odors if odorous mercaptans and H<sub>2</sub>S are present in the gas.

*Additional information on Abatement Order No. 99-6(A) requirements was added to the text on page 4.3-14:*

- If the VRU exhaust vents to the ICE bypass valve, this valve shall be “car sealed” closed, and the seal can only be removed upon notification and approval of the SBCAPCD;
- If the VRU LEL (low exposure limit) sensor actuates the bypass valve, shut down the loading, Venoco shall determine cause for LEL sensor tripping and submit a comprehensive written report to the SSRRC;
- If the VRU Compressor Relief Valve opens to the atmosphere, shut down the barge loading and determine the cause for the venting, submit a comprehensive written report to the SSRRC; and
- If any barge hold pressure safety valve (PSV) vents to the atmosphere, loading shall be shut down. Venoco shall determine the cause for venting and submit a comprehensive written report to the County’s System Safety and Reliability Review Committee (SSRRC) (see Section 4.2, Hazards and Hazardous Materials, for a description of SSRRC). If no correlating odor complaints are received, Venoco shall receive authorization from the Fire Department or the

SBCAPCD prior to restarting the loading operations. If correlating odor complaints are received, within two business days of the receipt of the written report from Venoco describing the cause of the release, the SSRRC technical subcommittee shall review the report and authorize the startup upon the showing by Venoco that the cause(s) of the release have been identified and appropriate corrective actions have been identified and implemented as approved by the SSRRC.

*Updated information was included on page 4.3-14 regarding the recent odor complaints associated with the EMT crude oil storage tanks:*

The tanks were drained and inspected internally for corrosion. The inspection revealed more corrosion damage in the ~~bottom of the tanks~~ floors (PRI 2005). During the work on the tanks, the SBCAPCD received and confirmed more nuisance odor complaints. The SBCAPCD determined that the source of the odors were hydrocarbon based solvents used to clean the internal surfaces of the tanks during the repair activities. As of July 2005, the required repairs on Tank 8265 have been completed and the tank is operational, repairs on Tank 8264 have been completed; the testing that is required before the tank can be put back in service is in progress.

*Revised baseline HRA results were added to the EIR on page 4.3-15:*

**Table 4.3-8  
1994 and 2003 HRA Results**

Emissions Year (Analysis Year)	Cancer Risk per million (Threshold = 10 per million)	Non Cancer Risk Index	
		Chronic (Threshold = 1)	Acute (Threshold = 1)
1991 (1994)	0.40	0.00 CNS	0.90 Resp
2003 (2005)	<u>4.442.51</u>	<u>0.005719</u>	0.412

**Note:** CNS = central nervous system; Resp = respiratory system.

Source of the 1994 HRA data: SBCAPCD 1994.

*SBCAPCD Rule 202 was updated on page 4.3-18:*

**Rule 202, Exemptions to Rule 201** – Lists equipment categories that are exempt from the requirements to obtain an SBCAPCD permit (exempt from Rule 201). ~~Listed below is the equipment category listed in Rule 201 that is applicable to the EMT facilities:~~

~~A permit shall not be required for piston-type internal combustion engines with a~~

~~manufacturer's maximum rating of 100 brake horse power (bhp) or less. (One diesel internal combustion engine on the barge Jovalan is rated at 89 bhp.)~~

*The APCD health risk thresholds were clarified on page 4.3-19 of the EIR:*

The operational air quality impacts of the proposed Project would be significant if the EMT does not comply with the terms of its PTOs (PTO Nos. 8232-R5 and 8233-R5) granted by the SBCAPCD. ~~Non-permitted emissions could have a significant, adverse impact if they:~~ The proposed Project would also have a significant impact if the increase in emissions from the proposed Project as compared to the current operations would:

- Exceed the SBCAPCD CEQA thresholds for a new project from all mobile and stationary sources: 240 lbs/day of ROC or NO<sub>x</sub>, and 80 lbs/day of PM<sub>10</sub>.
- Result in emissions which exceed the trigger for a New Source Review according to Rule 201 following emission thresholds, which is 25 tons per year of any affected pollutant.
  - ROC, 15 tons/year (14 metric tons/year), 80 lbs/day (36 kg/day);
  - NO<sub>x</sub>, 15 tons/year (14 metric tons/year), 80 lbs/day (36 kg/day), and
  - PM<sub>10</sub>, 15 tons/year (14 metric tons/year), 80 lbs/day (36 kg/day);
- ~~Contribute to an exceedance of localized CO emissions in excess of the State Ambient Air Quality Standard, i.e., 20 ppm for 1 hour or 9 ppm for 8 hours;~~
- Expose sensitive receptors (including residential areas) or the general public to substantial levels of toxic air contaminants such that:
  - Potential excess cancer cases are equal or greater than 10 per million individuals exposed (cancer risk exceeds  $1 \times 10^{-5}$ );
  - The Chronic and Acute Health Hazard Indexes from the project emissions are equal or exceed one (1). The Health Hazard Indexes ~~is are a~~ are a cumulative indexes that accounts for potential exposures to all hazardous chemicals related to the Project. The Health Hazard Index for a single hazardous chemical is a ratio of estimated potential exposure to a chemical over the chemical-specific health threshold; or

While the SBCAPCD guidelines only contain a peak daily emission threshold for criteria pollutants, the proposed Project would not result in an increase in peak daily emissions, but only a greater frequency of barge loadings/trips and more occurrences of peak day emission events, thus resulting in greater annual emissions. Therefore, in order to address potential long-term air quality impacts, Project emissions were compared to an annual emission threshold. This threshold is based on SBCAPCD Rule 201, Permits Required, which defines an applicable source as one with emissions of any one criteria pollutant in excess of 25 tons per year. This rule specifically addresses offshore operations, including dredging of waterways and derrick barges. Based on this definition, any project-related offshore source with affected pollutant emissions lower than 25 tons per year would not need a SBACPCD Authority to Construct or Permit to Operate and was considered insignificant.

Increased operational emissions associated with barge transport along the northern route (to the San Francisco Bay Area) were noted in the impact discussion for "Impact AQ-1: Increase in Emissions from Operations" on page 4.3-21. The associated Table 4.3-9 was also updated to reflect emissions from the longer northern route.

- The worst case fuel use by the tug and assist vessels would be when all annual trips of the barge are made to the Shore Terminal (north), however the worst reasonable case would be a historical combination of trips to the Shore Terminal (34%) and the rest to Long Beach area (south), thus 30 out of 88 trips would occur north (Note that in 2000-2004 the highest number of trips to north was 8 out of 23, or 34%); In either case, potential emissions would exceed the annual emissions threshold and result in a potentially significant impact.

**Table 4.3-9**  
**Project Facilities Current and Estimated Project Emissions**

Facility	NO <sub>x</sub> tons/yr	ROC tons/yr	CO tons/yr	SO <sub>2</sub> tons/yr	PM <sub>10</sub> tons/yr
<b>Current Average Emissions</b>					
Ellwood Marine Terminal	5.00	1.19	0.56	0.06	0.30
Barge Jovalan	1.56	1.93	0.37	0.03	0.12
<i>Total</i>	6.56	3.12	0.94	0.09	0.41
<b>Project Emissions</b>					
Ellwood Marine Terminal	<del>57.28</del> 49.13	<del>5.33</del> 3.11	<del>6.42</del> 2.15	<del>0.71</del> 0.24	<del>3.40</del> 1.14
Barge Jovalan	5.97	7.60	1.43	0.10	0.44
<i>Total</i>	<del>63.25</del> 25.10	<del>12.94</del> 10.72	<del>7.85</del> 3.58	<del>0.81</del> 0.34	<del>3.84</del> 1.58



**Table 4.3-9  
Project Facilities Current and Estimated Project Emissions**

Facility	NO <sub>x</sub> tons/yr	ROC tons/yr	CO tons/yr	SO <sub>2</sub> tons/yr	PM <sub>10</sub> tons/yr
<b>Difference in Current and Project Emissions</b>					
Ellwood Marine Terminal	<u>52.28</u> <u>44.13</u>	<u>4.14</u> <u>1.92</u>	<u>5.86</u> <u>1.59</u>	<u>0.65</u> <u>0.18</u>	<u>3.10</u> <u>0.84</u>
Barge Jovalan	4.41	5.68	1.06	0.08	0.33
<i>Total</i>	<u>56.69</u> <u>48.54</u>	<u>9.81</u> <u>7.60</u>	<u>6.92</u> <u>2.65</u>	<u>0.72</u> <u>0.26</u>	<u>3.43</u> <u>1.17</u>
Significance Thresholds	15.00	15.00	na	na	15.00
Are Thresholds Exceeded?	<b>Yes</b>	No			No

**Notes:** 1 ton = 0.9 metric ton.

The increase in annual NO<sub>x</sub> emissions due to the proposed Project would be above the significance threshold of 25 tons per year, assuming that loading operations at the EMT would continue as currently occur, i.e., the tug and assist vessel engines are shut down most of the time during loading, and 30 out of 88 trips would be made to the Shore Terminal (currently approximately 34% of trips are made to the Shore Terminal). Therefore, the Project's operational air impacts would be potentially significant (Class II). If all barge trips were to the Shore Terminal, the number of trips would be limited to 44 per year to remain less than significant. However, the annual emission threshold would not be exceeded if all 88 permitted trips were to the closer POLA/POLB. Out of 88 permitted annual trips, only 14 trips to the Shore Terminal could occur if the remainder of the trips (74) were to the POLA/POLB.

*The discussion of increased emissions (within the Santa Barbara County airshed) and potential impacts associated with the longer northern route were revised on 4.3-22:*

If the proposed Project is implemented, annual emissions would increase, however, daily emissions would not change, because barge daily operations during loadings would be identical to current operations. Therefore, Project peak daily emission increases would not exceed the peak daily emission threshold.

The proposed Project would also increase annual emissions in the adjacent air basins, and jurisdictions of other air districts, such as Ventura County. The potentially increased annual trips of the barge through the offshore area under the Ventura County APCD jurisdiction would result in the increased annual air emissions. The Ventura County APCD CEQA thresholds limit daily emissions from projects. The proposed

1 Project however, will not result in increase of daily emissions (only annual emissions  
2 due to the annual increase in the barge loadings and trips) would be increased. And  
3 therefore the project air quality impacts would be less than significant within the Ventura  
4 County APCD jurisdiction area.

5 *Mitigation Measures*

6 **AQ-1a. Vessel Emission Reduction.** If the proposed Project requires more than  
7 75-14 barge trips/loadings to the Shore Terminal and all of the maximum  
8 88 barge trips occur in any consecutive 12-month period, the Applicant  
9 shall implement an emission reduction program that would consist of the  
10 following:

11 (1) To be able to complete 88 annual trips with more than 14 trips to the  
12 Shore Terminal, the Applicant shall hire a tug and/or assist vessels that  
13 have combined NO<sub>x</sub> emissions approximately 20 percent lower than the  
14 current tug and assist vessels, and

15 (2) Reduce running time of the tug vessel generator engine(s) during the  
16 time when the tug vessel is moored at the EMT and is not moving or  
17 mooring the barge. The time reduction shall be at least 20 percent.

18 There are no available measures to mitigate air quality impacts if all 88  
19 trips are made to the north. If all the trips are made to the north, with the  
20 20 percent reduction in NO<sub>x</sub> emissions from the tug and assist boats' main  
21 engines, the Applicant shall limit trips to the north to 62 in any consecutive  
22 12-month period.

23 **AQ-1b. Limitation of the Generator Use.** The operators of the tug and assist  
24 vessels shall shut off the main and auxiliary engines during loading when  
25 not moving or mooring the barge Jovalan. This measure is applicable to  
26 normal operations and does not cover emergency response or operations.

27 *Rationale for Mitigation*

28 The annual operational emissions would be lower if fewer trips are made to the Shore  
29 Terminal~~the annual number of barge loadings is lower than the expected 88~~  
30 ~~loadings/year. It was estimated that at the maximum number of loadings at 75 per year,~~  
31 ~~the Project's NO<sub>x</sub>, ROC and PM<sub>10</sub> emissions would be below the thresholds of 15 tons~~  
32 ~~(14 metric tons) per year of each of the three pollutants. However, an increase of the~~

1 ~~barge trips/loadings over 75 per year would result in NO<sub>x</sub> emissions above the~~  
 2 ~~threshold. The current percentage of trips made to the Shore Terminal is approximately~~  
 3 ~~34%, which for the proposed operations translates into 30 trips out of 88. If, with no~~  
 4 ~~other mitigation, the trips made to the Shore Terminal are limited to 14 out of 88 trips,~~  
 5 ~~emissions of NO<sub>x</sub> would be reduced to below the annual threshold of 25 tons. If the tug~~  
 6 ~~and assist boat main engines emissions are reduced by 20%, e.g., by hiring boats with~~  
 7 ~~newer engines, then the number of trips made to the Shore Terminal can be increased~~  
 8 ~~to 25 out of 88, and the annual NO<sub>x</sub> emissions would still be below the significance~~  
 9 ~~level.~~

10 If the generators on the tug and assist vessels are shut off when the vessels are not  
 11 assisting the barge, as currently done, the daily emissions from the generators would  
 12 be reduced/kept at the current level. This measure is proposed to ensure that the current  
 13 operations continue, and the boats are required to shut down the engines during  
 14 loading.

15 *The text on page 4.3-23 was modified to clarify the SBCAPCD's policy on odor*  
 16 *complaints and their investigations into complaints at the EMT:*

17 Although there are many recorded odor nuisance complaints in the area, and historically  
 18 the EMT and barge are a demonstrated source of odors (Santa Barbara County Fire  
 19 Department 2000), the recent SBCAPCD investigations have concluded analysis has  
 20 demonstrated that the EMT and barge have only one recent odor event (year 2005) was  
 21 directly attributed to their EMT and barge operations.

22 *Mitigation Measures AQ-2a and AQ-2b on page 4.3-24 have been revised to reflect*  
 23 *safety concerns. The rationale for mitigation has also been revised to reflect the*  
 24 *updated mitigation measures. Residual impacts remain Class II, or less than significant*  
 25 *after the implementation of mitigation:*

26 **AQ-2a. Emission Control Devices on Tanks.** The Applicant shall implement a  
 27 monitoring program that requires a monitor to check the integrity of the  
 28 tanks, specifically the internal roofs before each barge loading. If any free  
 29 product is observed on the roofs, the loading shall proceed to drain the  
 30 tanks to the maximum extent feasible. The Applicant shall notify the  
 31 SBCAPCD of the free product on the roofs as soon as practically possible.  
 32 The applicant shall stop any loading of crude into the tank where leaks are  
 33 discovered until the tank is repaired, and inspected and approved for  
 34 loading by the SBCAPCD.

1 If the outlined tank monitoring does not successfully eliminate odor events  
2 from the tanks (there is one additional odor event) the Applicant shall  
3 install ~~approved by the APCD~~ vapor control devices, e.g., carbon canisters  
4 or equivalent devices, on the vents of the crude oil storage tanks. The  
5 vapor control devices shall be capable of an odorous compounds removal  
6 efficiency of at least 90%. The Applicant shall submit an appropriate  
7 maintenance ~~replacement~~ schedule based on control efficiency monitoring  
8 for the vapor control devices to the SBCAPCD for its review and approval.

9 **AQ-2b. Emission Control Devices on the Barge Jovalan.** The Applicant shall  
10 ~~install proximity switches on the PSVs on the barge Jovalan, to prevent~~  
11 monitor the pressure in the system at all times during barge loading to  
12 prevent lifting of the PSVs due to overpressure. The switches shall be  
13 ~~telemetered to the control room on the barge and trigger an alarm. The~~  
14 ~~operating procedures shall require immediate shutdown of the pumps in~~  
15 ~~case of overpressure.~~

16 Following the required shutdown of the loading pumps, identify the  
17 necessary actions to be taken by Venoco in order to resume loading oil  
18 into the barge and avoid overpressure, i.e., such actions as resume  
19 loading into a different barge hold or resume loading at a lower rate.

20 Implementation of **MMs HM-1a, HM-1b, HM-4a, and HM-6a** would also reduce potential  
21 for accidental releases of odorous compounds.

#### 22 *Rationale for Mitigation*

23 The monitoring program to ensure integrity of the storage tanks would reduce the  
24 possibility of free product leaking through the internal tank roofs. If the monitoring  
25 program fails to reduce odorous emissions or is ~~proved~~ found to be inefficient, other  
26 methods of ~~vapor control, such as carbon canisters, on the vents of~~ the oil storage  
27 tanks would eliminate or significantly reduce the amount of vapors that produce  
28 nuisance odors, because the vapors that would ~~exit through the vents~~ would be trapped  
29 physically controlled by an approve method~~by carbon~~.

30 The required monitoring of the loading pressure and timely shutdown of the pumps in  
31 case of overpressure will initiate shutdown prior to ~~Installation of proximity switches~~  
32 would reduce the time needed to shutdown the loading, or correct the situation, to  
33 prevent the lifting of the PSVs and thus reduce the potential release of odorous

compounds. Implementation of MM HM-1a would reduce the amount of H<sub>2</sub>S in the oil and thus vapor phase, thereby reducing H<sub>2</sub>S concentration in the air in case of a release. Implementation of the measures outlined in Section 4.2 Hazards and Hazardous Materials would reduce the potential for accidental releases.

*The health risk assessment was revised on page 4.3-25 to reflect SBCAPCD comments and clarify the maximum risk associated with the project. Potential impacts remain Class II, less than significant:*

The highest risk would be observed at the barge mooring location, because the highest emissions occur from the tug and assist vessels, and the driver for main contributor to the cancer risk are results from emissions of diesel exhaust emissions of particulate matter. There is no population that could be continuously exposed to the emissions in on the ocean, or in on the beach and protected areas of Devereux Slough. Therefore, the most affected receptor which can have continuously exposed population is the residence located at Coal Oil Point. At the most affected receptor (the residence located at Coal Oil Point is the closest downwind from the barge Jovalan mooring location), excess cancer risk, and acute and chronic HIs would be below the thresholds of 10 cases per million and 1 HI, respectively. Cancer risk and chronic HI would increase approximately 3.8 times with the proposed Project at maximum utilization rates.

Note that the acute HI would not change with the Project because this index is driven by the hourly emissions from the project facilities. Hourly emissions would not change with the proposed Project (see discussion for Impact **AQ-1**), therefore this HI would not change.

**Table 4.3-10**  
**Baseline and Proposed Project HRA Results – Coal Oil Point Residences**

Emissions used	Cancer Risk per million Threshold = 10	Non Cancer Risk Index	
		Chronic Threshold = 1	Acute Threshold = 1
Baseline (2003)	4.442.51	0.005719	0.412
Project	5.519.61	0.002474	0.412

#### **SECTION 4.4: HYDROLOGY, WATER RESOURCES, AND WATER QUALITY**

*The beneficial use designation of groundwater was noted on Page 4.4-17:*

The project site overlies the West Subbasin of the Goleta Groundwater Basin. This underground reservoir is considered to be hydrologically separate from the North and Central subbasins of the Goleta Groundwater Basin (Goleta North/Central Basin). Based on the most recent analysis, the West Subbasin is in a state of surplus. However, water quality from wells drilled in this subbasin is of poor quality and low yield, but is classified as beneficial use drinking water by the RWQCB under the Basin Plan. Saline, perched groundwater may be present beneath portions of the project site, at depths equal to or slightly above sea level, as evidenced by a dune swale pond, located southeast of the project area. Because the topography beneath the project site varies from sea level to approximately 60 feet (18 m) above mean sea level, groundwater may be present at depths varying from a few feet (1 m) to approximately 60 feet (18 m) below ground surface.

*The statement below that was included as part of the discussion of the Porter-Cologne Water Quality Control Act on page 4.4-22 was removed since the EMT is covered by an existing industrial Storm Water Pollution Prevention Plan (SWPPP):*

~~The EMT is not covered by an existing industrial SWPPP.~~

*The applicability of the California Ocean Plan was clarified on Page 4.4-22:*

The SWRCB prepares and adopts the California Ocean Plan, which incorporates the State water quality standards that apply to all ~~NPDES discharges~~ permits to the ocean (Table 4.4-1) and which is part of the California Coastal Management Program. The standards identified in the California Ocean Plan are consistent with the limitations specified in the NPDES General Permit. This determination was made when the CCC (2001) concurred with the EPA's consistency certification that the proposed activities are consistent with the enforceable policies of the Coastal Management Program. In addition to the narrative standards specified in the Ocean Plan, numerical water quality objectives are specified.

*Requirements of the proposed California Toxics Rule were clarified on page 4.4-22.*

#### *Proposed California Toxics Rule*

Water quality criteria for priority toxic pollutants for California inland surface waters, enclosed bays, and estuaries ~~have been~~ were proposed ~~proposed~~ adopted. These federally promulgated criteria, ~~when finalized~~, together with State-adopted designated uses, ~~will~~ create water quality standards for California inland waters. This rule ~~will satisfy~~ will Clean Water Act requirements and fill the need for water quality standards for priority

toxic pollutants to protect public health and the environment. The State Water Resources Control Board adopted the “Policy for implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California” in 2000.~~U.S. EPA and the State of California are working to restore standards to California waters; therefore, the EPA is now proposing water quality criteria and the State will soon be proposing implementation procedures to ensure that the resulting water quality standards will be appropriately and consistently applied throughout the State.~~

*The date of the current California Ocean Plan was corrected on page 4.4-25:*

- The water quality objectives in the California Ocean Plan (SWRCB ~~2004~~2005) are exceeded;

## **SECTION 4.5: BIOLOGICAL RESOURCES**

*The text on page 4.5-17 was supplemented with information received from the organization Grey Whales Count:*

The California gray whale (*Megaptera novaeangliae*) is the most common baleen whale seen in the Santa Barbara Channel. Most of the world’s population, approximately 20,000, passes through the area twice each year on their annual migration between calving grounds in Mexico and feeding grounds to the north. In contrast to most other whale species, gray whales remain relatively close to the coastline, with the majority found close to shore over continental shelf waters, particularly on the northbound portion of their journey (Herzing and Mate 1984; Reilly 1984; Rice et al. 1984; Rugh 1984; Dohl et al. 1983a; Sund and O’Connor 1974). During the spring months of 2006, approximately 2,833 gray whales passed through the nearshore waters off Coal Oil Point during their northward migration. Of these, approximately 618 were calves (Gray Whales Count 2006).

*Specific information on the presence of the southern tarplant at the EMT was clarified on pages 4.5-44 and in Table 4.5-14 of the EIR:*

Of the plant species listed in Table 4.5-10, only the southern tarplant is known to occur in the immediate vicinity of the EMT (see Figure 4.5-7). This is an annual herb that germinates in the spring and blooms from June to November. It is a member of the sunflower family and has small, yellow flowers and green, bristly, spine-tipped leaves. The largest local population of this species is reported to occur within the EMT lease boundary (City of Goleta 2004). This plant was observed in this location during the

1 surveys conducted for this study. The surveys recorded the presence of southern  
2 tarplant within the tank containment area, as well as to the south of the EMT (Figure  
3 4.5-7).

4 *Updated information California least tern breeding in the area that was not available*  
5 *when the EIR was written was added to page 4.5-51 of the EIR:*

6 The dunes and beaches of the Coal Oil Point Reserve provide habitat for the California  
7 least tern (City of Goleta 2004) although, until recently, there had been no records of  
8 this species breeding in the area for several decades (Lehman 1994). Between June  
9 and early July 2006, however, a total of -5 chicks were successfully hatched from three  
10 separate nests at the Coal Oil Point Reserve. This species has been observed at the  
11 western end of Devereaux Slough (Coon, Ferren, and Gaines 1997) and has also been  
12 recorded foraging in the project area (City of Goleta 2004).

13 *Item 2 of Mitigation Measure BIO-5a. Marine Mammal Contingency Plan was modified*  
14 *to provide the general gray whale migration period:*

- 15           2. A minimum of two marine mammal observers shall be placed on all  
16           support vessels during the spring and fall gray whale migration periods  
17           (generally December through May), and during periods/seasons when  
18           marine mammals are known to be in the project area and along the  
19           barge route in relatively large numbers. Observers can include the  
20           vessel operator and/or crew members, as well as any project worker  
21           that has received proper training.

22 *A residual impacts discussion was added to the text on page 4.5-103 to clarify that*  
23 *residual impacts were considered significant:*

24 Residual Impacts

25 The impact would remain significant (Class I) because there are limitations to thorough  
26 containment and cleanup of an oil spill.

27 **SECTION 4.7: LAND USE, PLANNING, AND RECREATION**

28 *USCB ownership of the onshore portion of the EMT was clarified on page 4.7-4 of the*  
29 *EIR:*

30 UCSB purchased the onshore parcel containing the EMT in 1994. Prior to that, the land



was under the jurisdiction of Santa Barbara County. The Goleta Community Plan (GCP) was adopted by the Santa Barbara County Board of Supervisors in July 1993 as the focused policy document for the unincorporated areas of Goleta, including the West Devereux Specific Plan area, where the EMT is located. Because the area is within the coastal zone, County policies for the area were reviewed and adopted by the California Coastal Commission. Santa Barbara County rezoned the onshore portion of the EMT in the early 1990s to Planned Residential Development, rendering the EMT a legal, non-conforming use (Santa Barbara County 2004c).

*Information on the Goleta General Plan, which was approved subsequent to the release of the Draft EIR, has been added, where applicable to the proposed project, on page 4.7-12 of the EIR:*

Goleta General Plan (GGP)

The GGP was approved on October 2, 2006, and becomes effective on November 1, 2006. The GGP contains specific Land Use Elements that pertain to Venoco facilities, including the EMT. Specifically, LU-10.5 includes:

LU 10.5 Ellwood Marine Terminal. [GP] The onshore portion of the existing EMT is located just outside the city boundary on lands leased by Venoco from the University of California, Santa Barbara. The current lease expires in January 2016. The portion seaward of the mean high tide line is subject to a lease from the State Lands Commission and includes an undersea pipeline that extends to a mooring area for barges. The onshore component of the EMT is situated adjacent to the City-owned Ellwood Mesa Open Space Preserve. Oil is transported to the EMT from the EOF via the Line 96 pipeline.

a. The City supports the termination of the lease between UCSB and Venoco at, or prior to, the present expiration date in January of 2016.

b. Upon cessation of use, the EMT should be properly decommissioned, including removal of the onshore and offshore portions of the facility, except where such removal would result in greater adverse impacts than abandonment in place, and the site should be restored to a natural condition with appropriate revegetation.

c. The City supports the cessation of transport of oil by barge or tanker. In the event of new production at Platform Holly from extended-reach

drilling of new wells, the City supports the transport of the new oil and gas production by pipeline to the Las Flores Canyon area for processing.

*Impact LU-3 was added to page 4.7-17 of the EIR. Since the EMT is an existing facility and is considered a legal use, potential impacts were found to be adverse but less than significant (Class III):*

Impact LU-3: The Proposed Project Conflicts with Adopted Land Use Plans, Policies, Ordinances, or Planning Efforts to Protect the Recreational Resources of The Area.

While the proposed Project would appear to conflict with the adopted land use plans, policies, or ordinances governing the site, in addition to planning efforts to protect the recreational resources, the EMT is designated to operate as a legal, non-conforming use. Therefore, the physical land use impacts resulting from the proposed Project would be adverse, but less than significant (Class III).

Impact Discussion

The EMT was constructed in 1929, when the local land use environment was extremely different. At that time, a number of oil facilities were located in the Ellwood-Devereux Coast area, remnants of which still exist today. In the early 1990s, the zoning of the parcel was changed to Planned Residential Development by the County and subsequently to Open Space by UCSB.

The EMT operates as a legal, non-conforming use with a vested right to transport oil as allowed under its existing permits (Santa Barbara County 2004a). With the expiration of the onshore lease, in 2016, the EMT facility will be dismantled and the site restored to open space conditions similar to those prior to facility construction.

While the presence of the EMT is considered out of place by many and in direct conflict with the open space, habitat restoration, and recreation goals of the Open Space Plan and LRDP Amendment, it remains a legal use in the area. Implementation of the proposed Project, with the EMT transporting no more than it is legally permitted to do, would not result in a significant land use impact (Class III).

*The discussion of a potential crude oil truck loading rack was expanded on page 4.7-18 of the EIR:*

A truck loading rack would be constructed at the EOF to accommodate the necessary

truck loading requirements. The facility currently has a truck loading rack for the LPG/NGL system, which could be expanded to accommodate crude oil truck loading. The facility also has 4,000 bbl of crude oil surge tank storage capacity which would be minimally adequate to accommodate crude oil truck transportation, but would require nearly continuous truck loading. The existing onsite crude oil storage capacity is approximately the same as the average daily production rate. In the event that crude oil transportation is not possible on any given days, e.g., highway closures, production facilities on Platform Holly would need to be shut down.

*The discussion of an onshore crude oil pipeline and consistency with applicable plans and policies was expanded on page 4/7-19 of the EIR:*

All the appropriate approvals and access to private land would be obtained prior to construction. Installation and operation of the pipeline would not conflict with adopted land use plans, policies, or ordinances or be incompatible with adjacent land uses or affect recreational uses. Overland pipeline transportation would be consistent with County Policies and Regulations for crude oil transportation from offshore oil development projects. No impacts to land use or recreation would be expected under this Alternative. This alternative would be consistent with the goals specified in Goleta General Plan Land Use Element 10-5, which supports the early cessation of crude oil barge transport and the construction of a pipeline to Las Flores Canyon for oil and gas processing.

## **SECTION 4.9: TRANSPORTATION AND CIRCULATION**

*CalTrans level of service (LOS) goals were clarified on page 4.9-2 of the EIR:*

The Highway Capacity Manual (HCM) (Transportation Research Board [TRB] 1994) is widely used in traffic studies for predicting LOS for a range of roadways and intersections. The HCM established LOS classifications depending on roadway volume to capacity (V/C) ratios for different types of roadways and for intersections; these are given in Table 4.9-1. The LOS of a roadway is described using a scale ranging from A to F, with A indicating excellent traffic flow quality and F indicating stop-and-go traffic. Level E is normally associated with the maximum design capacity that a roadway or intersection can accommodate. LOS A, B, and C are generally considered satisfactory. LOS D is considered tolerable in urban areas during peak hours due to the high cost of improving roadways to LOS C. On the State highway facilities, the California Department of Transportation endeavors to maintain a target LOS at the transition

between LOS C and LOS D.

Updated information on intersection traffic was included in Table 4.9-4 on page 4.9-8 of the EIR:

**Table 4.9-4**  
**Intersection Traffic for the Project-Related Roadways**

Roadway	Control	Existing		Future*	
		V/C Ratio or Delay	LOS	V/C Ratio or Delay	LOS
Calle Real at U.S. 101 NB Off-Ramp	Stop-sign	8.8 sec.	A	8.9	A
Hollister Ave./Calle Real/U.S. 101 NB On-Ramp	Stop-Sign	<del>138.05</del> sec.	<del>BA</del>	<del>814.53</del> sec.	<del>AB</del>
Hollister Ave. /U.S. 101 SB Ramps	Stop-Sign	<del>101.36</del> sec.	B	<del>141.46</del>	B
Hollister Ave./Elwood School	Signal	0.36	A	0.40	A
Hollister Ave./S.B. Shores Drive	Stop-Sign	8.5 sec.	A	8.7 sec.	A
Storke Rd/Hollister Ave.	Signal	<del>0.84</del> <u>77</u>	<del>DC</del>	<del>0.97</del> <u>4</u>	E
Storke Rd./Glenn Annie Rd./U.S. 101 NB Ramps	Signal	<del>0.59</del> <u>65</u>	<del>BA</del>	<del>0.61</del> <u>77</u>	<del>BC</del>
Storke Rd./U.S. 101 SB Ramps	Signal	<del>0.49</del> <u>51</u>	A	<del>0.52</del> <u>63</u>	<del>AB</del>

**Notes:** \* Includes the proposed projects in Goleta. LOS = level of service; ADT = average daily traffic.

**Source:** City of Goleta 2004, 2006; UCSB 2004.

Two of the significance criteria were clarified on page 4.9-12 of the EIR:

- Project traffic changes average daily LOS of a highway or freeway roadways under Caltrans jurisdiction to below D.
- Project traffic, or contributes over 100 peak-hour trips to a roadway with LOS D, or 50 peak-hour trips to a roadway E or F to roadways under the Santa Barbara Association of Governments Congestion Management Plan jurisdiction.

Specific encroachment permit requirements were noted on page 4.9-16:

All project-related transportation impacts could be mitigated through development and implementation of a Construction Traffic Control Plan. The Applicant would need to obtain an encroachment permit from Caltrans to be able to cross underneath Highway 101 via boring. To obtain the permit the Applicant would be required to meet the applicable Caltrans specifications.

## SECTION 4.10: NOISE

*Mitigation Measures N-3a and N-3b (EIR pages 4.10-12 and 4.10-13) were slightly modified to be consistent with the recently adopted City of Goleta noise ordinance:*

**N-3a. Noise Reduction Plan.** The Applicant shall prepare a noise reduction plan which shall be approved by Santa Barbara County and the city of Goleta. The plan would include but not be limited to the following measures:

- Post notifications to the residents and landowners about the planned pipeline construction near their residence/land at least one week before construction at that location.
- Ensure that construction activities do not occur between 4:00 p.m. and 7:00 a.m. on weekdays in non-residential areas, and 5:00 p.m. and 8:00 a.m. on week days in or near residential areas, and ~~Saturdays~~ and not at all on Saturdays and Sundays or holidays unless specifically required by permits or at the direction of the county/city staffs.
- Ensure that all internal combustion engines are properly maintained and that mufflers, silencers, or other appropriate noise-control measures function properly.

**N-3b. Noise from Boring Reduction Measures.** If boring under Highway 101 or any other noise-producing activity during the pipeline construction is required to be conducted during the evening or night hours (from ~~5~~ p.m. to ~~8~~ a.m.), the Applicant shall locate the boring machine entry pit on the north side of the highway and provide temporary noise barriers to minimize noise at the residences on the northeast side of the highway.

## SECTION 6: MITIGATION MONITORING PROGRAM

*The Mitigation Monitoring Program was updated to reflect all changes to mitigation measures discussed above.*

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**Table 6-1  
Mitigation Monitoring Program**

Impact (Class)	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<b>Geological Resources</b>						
<b>GEO-5:</b> Faulting and Seismicity (Class II)	<b>GEO-5a:</b> The Applicant shall cease terminal operations and inspect all EMT pipelines and storage tanks following any seismic event in the region (Santa Barbara County and offshore waters of the Santa Barbara Channel and Channel Islands) that exceeds a <u>ground acceleration of 13 percent of gravity (0.13 g) Richter magnitude of 4.0</u> . The Applicant shall report the findings of such inspection to the CSLC and the SSRRC and shall not reinstitute operations of the EMT until authorized to do so by the CSLC.	At the EMT facilities.	The Applicant shall report applicable seismic events and inspection results. The monitoring agency or designated monitor shall review and approve the retrofitted facility.	Demonstration of EMT equipment integrity following an applicable seismic event.	CSLC and SBC	Following each applicable seismic event.
<b>HM-4:</b> Increased Spill Sizes Due to Loading Pipeline Leak Detection (Class II)	<b>HM-4a:</b> The Applicant shall ensure that both the shipping end and the receiving end of the loading pipeline are equipped with flow meters and that the flow meters utilize a means of conducting automatic and continuous flow balancing to an accuracy of at least 2 percent. Any deviations shall activate an alarm system at both the shipping and receiving locations. <u>All loading operations shall be observed by an operator who is on duty at all times during loading to ensure rapid detection of leaks or spills.</u> <del>Barge loading should only occur during daylight hours when there is clear visibility to ensure smaller leaks are detectable.</del>	At the EMT onshore.	Annual CSLC audit, loading records, EMT operations manual.	Testing of leak detection capabilities.	CSLC, SBC	Prior to lease renewal.
<b>HM-5:</b>	<b>HM-5a:</b> The Applicant shall pre-boom	Between	Annual CSLC audit, loading	Booming of vessel.	CSLC	Prior to lease

Impact (Class)	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Increased Spill Sizes Due to Failure to Deploy Loading Booms (Class II)	all oil transfers using booms that are effective for the ocean conditions at the EMT location. For loading operations, the boom shall enclose the water surface surrounding <u>three sides of the vessel</u> to provide containment for the <del>entire vessel</del> at the waterline( <u>the seaward side of the vessel may remain unboomed to allow for vessels to reach the barge in the event of an emergency</u> ). The boom shall be deployed so that it provides a stand-off of not less than 4 feet (1.2 m) from the outboard side of the vessel.	the EMT and the mooring.	records, EMT operations manual.			renewal.
<b>HM-6:</b> Spills Due to Loading Pipeline Failure from Inadequate Loading Pipeline Integrity Inspections (Class II)	<b>HM-6a:</b> The Applicant shall investigate and utilize, <u>if applicable</u> a non-destructive testing procedure, which will enable inspection of the loading pipeline from the pump-house to the hose connection for both corrosion, internal and external, and for allowable pipe stresses due to settling. <u>The Applicant shall also conduct pressure testing of the pipeline annually at 125% MAOP for 4 hours. A program of GUL, or equivalent, testing of the pipeline as far into the intertidal zone as practical should be established with testing at a minimum of every 3 years. Close interval cathodic protection testing should be conducted every 3-5 years to ensure that the cathodic protection system is operating correctly the entire length of the pipeline. Visual inspection of the entire pipeline route for unsupported spans or other pipeline route anomalies should also be conducted at least every 3 years.</u>	Between the EMT and the mooring.	The Applicant shall report on the results of the inspection to the County every three years. The County shall review and approve the inspection results.	Acceptable corrosion and stress levels.	CSLC, SBC	Prior to lease renewal.

Impact (Class)	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	<b>HM-6b.</b> <u>Loading Pipeline Visual Inspections. Visual inspection of the entire pipeline route for unsupported spans or other pipeline route anomalies should be conducted at least every 3 years. The beach section of the pipeline should be inspected during and after storms to ensure that free-spans do not exceed 30 feet and that beach debris does not impact the pipeline. Written results of each inspection should be submitted to the County and the CSLC. If the pipeline becomes exposed, all efforts should be made to conduct GUL inspections and pipe-wrap repairs as directed by the County in previous correspondence (SBC, 2002). Loading of the barge should not be conducted when wave action threatens the integrity of the marine loading pipeline.</u>	<u>Between the EMT and the mooring.</u>	<u>Tri-annual monitoring and reporting of pipeline free spans. More frequent monitoring and reporting if storms expose large sections of the pipeline.</u>	<u>Timely inspection and reporting of pipeline unsupported spans.</u>	<u>CSLC, SBC</u>	<u>Every three years or more frequent if conditions warrant.</u>
<b>HM-9:</b> Spills Due to Barge Hull Penetrations (Class II)	<b>HM-10a9a.</b> <u>The Applicant shall replace or convert the barge Jovalan with a double-hulled barge, or convert the Jovalan to a double-hulled vessel within 18 months of lease approval. Any replacement barge would be required to meet or improve upon the existing Barge Jovalan's emission control system as described in the Air Quality section of the Draft EIR and Finalizing Addendum by the 2010 timeframe established by CFR Title 33 as the phase-in date for larger vessels to be double-hulled vessels.</u>	Barge	Vessel inspections.	Presentation of barge credentials to USCG.	<u>CSLC, USCG, SBC</u>	<u>Within 18 months of lease approval. Before 2010.</u>
<b>AQ-1:</b> Increase in	<b>AQ-1a.</b> <u>If the proposed Project requires more than 75-14 barge trips/loadings to</u>	<u>Mooring of the</u>	<u>Monitor number of barge trips. If barge trips are above 75 per</u>	<u>If total annual emissions of NOx</u>	<u>APCD</u>	<u>Every 12 months, as the</u>



Impact (Class)	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Emissions from Operations (Class II)	<p>Shores Terminal and all of the maximum 88 barge trips occur in any consecutive 12-month period, the Applicant shall implement an emission reduction program that would consist of the following:</p> <p>(1) <u>To be able to complete 88 annual trips with more than 14 trips to the Shores Terminal, the Applicant shall hire a tug and/or assist vessels that have combined NO<sub>x</sub> emissions approximately 20 percent lower than the current tug and assist vessels, and</u></p> <p>(2) Reduce running time of the tug vessel generator engine(s) during the time when the tug vessel is moored at the EMT and is not moving or mooring the barge. The time reduction shall be at least 20 percent.</p> <p><u>There are no available measures to mitigate air quality impacts if all 88 trips are made to the north. If all the trips are made to the north, with the 20 percent reduction in NO<sub>x</sub> emissions from the tug and assist boats' main engines, the Applicant shall limit trips to the north to 62 in any consecutive 12-month period.</u></p>	barge Jovalan	<p>12-month period, the applicant shall submit the necessary emission data for the new tug/assist vessels.</p> <p>Review annual emissions for the generators on the vessels.</p>	are within the 21.56 ton/yr (15 ton per year increase from baseline), the measure is effective.		annual emission inventory for the facilities is submitted as required.
	<p><b>AQ-1b.</b> The operators of the tug and assist vessels shall shut off the main and auxiliary engines during loading when not moving or mooring the barge Jovalan. <u>This measure is applicable to normal operations and does not cover emergency response or operations.</u></p>	Mooring of the barge Jovalan	<p>Monitor the activities of the vessels during loading.</p> <p>Monitor quarterly fuel reports. The vessel fuel consumption should not change drastically per one loading, if no changes have been made to the vessels.</p>	If the fuel consumed by the vessels does not change per loading (if there were no changes to the engines), the measure is effective.	APCD	Monitor vessel activities during every scheduled visit to the barge. Monitor fuel consumption every quarter.

Impact (Class)	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
AQ-2: Odor Emissions from Operation (Class II)	<b>AQ-2a.</b> The Applicant shall <u>implement a monitoring program that requires a monitor to check the integrity of the tanks, specifically the internal roofs before each barge loading. If any free product is observed on the roofs, the loading shall proceed to drain the tanks to the maximum extent feasible. The Applicant shall notify the APCD of the free product on the roofs as soon as practically possible. The applicant shall stop any loading of crude into the tank where leaks are discovered until the tank is repaired, and inspected and approved for loading by the APCD. If the outlined tank monitoring does not successfully eliminate odor events from the tanks (there is one additional odor event) the Applicant shall install vapor control devices, e.g., carbon canisters or equivalent devices, on the vents of the crude oil storage tanks. The vapor control devices shall be capable of an odorous compounds removal efficiency of at least 90%. The Applicant shall submit an appropriate maintenance replacement schedule based on control efficiency monitoring for the vapor control devices to the APCD for its review and approval.</u>	EMT	A meeting shall be conducted between the Applicant and the APCD to agree on the exact device design, properties, and maintenance schedule. APCD shall inspect upon the installation. The Applicant shall report when the installation is complete.	If confirmed odor complaints number does not increase with the increased barge loadings and EMT operation, the measure is effective.	APCD	Inspect after the installation. Monitor proper function every year. Monitor number of odor complaints.
	<b>AQ-2b.</b> The Applicant shall <u>monitor install proximity switches on the PSVs on the barge Jovalan to prevent the pressure in the system at all times during barge loading to prevent lifting of the PSVs due to overpressure. The switches shall be telemetered to the</u>	Barge Jovalan	A meeting shall be conducted between the Applicant and the APCD to agree on the exact device design, properties, and maintenance schedule. APCD shall inspect upon the installation. The Applicant shall	If confirmed odor complaints number does not increase with the increased barge loadings and EMT operation, the measure is	APCD	Inspect after the installation. Monitor proper function every year. Monitor number of odor complaints.

Impact (Class)	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	control room on the barge and trigger an alarm. The operating procedures shall require immediate shutdown of the pumps in case of overpressure. Following the required shutdown of the loading pumps, identify the necessary actions to be taken by Venoco in order to resume loading oil into the barge and avoid overpressure, i.e., such actions as resume loading into a different barge hold or resume loading at a lower rate.		report when the installation is complete.	effective.		
<b>BIO-5:</b> Vessel Traffic Impacts on Marine Mammals and Turtles (Class II)	<b>BIO-5a.</b> The Applicant shall ensure that vessel operators develop and implement a contingency plan that focuses on recognition and avoidance procedures when marine mammals are encountered at sea. Minimum components of the plan include: Existing and new vessel operators shall be trained by a marine mammal expert to recognize and avoid marine mammals prior to project-related activities. Training sessions shall focus on the identification of marine mammal species, the specific behavior of species common to the project area and barge routes, and awareness of seasonal concentrations of marine mammal species. The operators shall be re-trained annually. A minimum of two marine mammal observers shall be placed on all support vessels during the spring and fall gray whale migration periods ( <u>generally December through May</u> ), and during periods/seasons when marine	On the vessel routes and the oil loading location.	Prepare and submit the plan to the CSLC and California Department of Fish and Game for review and approval.	There is no animal injury or mortality.	CSLC and California Department of Fish and Game.	Before the lease extension is granted.

Impact (Class)	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	<p>mammals are known to be in the project area and along the barge route in relatively large numbers. Observers can include the vessel operator and/or crew members, as well as any project worker that has received proper training.</p> <p>Vessel operators will make every effort to maintain a distance of 1,000 ft (305 m) from sighted whales and other threatened or endangered marine mammals or marine turtles.</p> <p>Vessel speed shall be limited to 16 mph (14 knots).</p> <p>Support vessels will not cross directly in front of migrating whales or any other threatened or endangered marine mammals or marine turtles.</p> <p>When paralleling whales, supply vessels will operate at a constant speed that is not faster than the whales.</p> <p>Female whales will not be separated from their calves.</p> <p>Vessel operators will not herd or drive whales.</p> <p>If a whale engages in evasive or defensive action, support vessels will drop back until the animal moves out of the area.</p> <p>Any collisions with marine wildlife will be reported promptly to the Federal and State agencies listed below pursuant to each agency's reporting procedures.</p> <p>Stranding Coordinator, Southeast Region (currently, Joe Cordaro)</p> <p>National Marine Fisheries Service</p>					

Impact (Class)	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	Long Beach, CA 90802-4213 (310) 980-4017 Enforcement Dispatch Desk California Department of Fish and Game Long Beach, CA 90802 (562) 590-5132 or (562) 590-5133 California State Lands Commission Environmental Planning and Management Division Sacramento, CA 95825-8202 (916) 574-1890					

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1   **SECTION 8: REFERENCES**

2   *The following references have been added to the EIR as a result of additional*  
3   *information that was provided in response to comments:*

4   |   City of Goleta. 2006. Goleta General Plan / Coastal Land Use Plan.

5   |   Santa Barbara County. 2002. Letter from Frank Breckenridge of Santa Barbara County  
6   |   to David K. Sangster regarding two safety concerns. Dates April 18, 2002.

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